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By Electronic Mail

Morley Stone, PhD
Senior Vice President for Research
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October 09, 2020

Dear Dr. Lauer:

On behalf of the Ohio State University (“Ohio State”), I am responding to your letter dated April 27, 2020, titled “Possible failure to disclose outside research support, relevant affiliations, or foreign components.” In the letter, you stated that “there are issues of potential noncompliance with NIH policies regarding disclosure of outside research support and relevant affiliations or foreign components at the Ohio State University.” You requested that Ohio State review compliance with the National Institutes of Health (“NIH”) policies on Other Support, Foreign Components, Financial Conflicts of Interest, and affiliations on two active NIH awards associated with Principal Investigator and Ohio State faculty member Song Guo Zheng, Professor of Internal Medicine and the Ronald L. Whisler Chair in Rheumatology and Immunology. Those awards are:

- R61 AR073049; and
- R01 AR059103;

In addition, the university also included in its review Dr. Zheng’s activities related to two federal subawards:

- R01 AI125334 (Medical College of Wisconsin, PI: Xiao Chen); and
- R01 AI139535 (University of Utah, PI: Mingnan Chen).

The university appreciates the background information you provided, and this opportunity to address your concerns in detail. Ohio State is committed to ensuring compliance with all applicable federal regulations and policies, as well as to fostering dynamic research collaborations, openness in research, academic freedom, and collaboration with foreign researchers, while promoting full transparency surrounding all interactions with industry and foreign entities. To this end, on December 7, 2018, the university sent out a communication to all university researchers—more than 19,000 individuals—with updated guidance on conflict of interest disclosures. This communication also included links to NIH’s Memorandum on Foreign Influence (dated August 20, 2018, “NIH Memorandum”) and relevant university policies. (Ex. 1) Additionally, on January 23, 2020, Ohio State sent a comprehensive communication to federally-funded researchers to remind them of their responsibility to follow all federal requirements and institutional policies. The university appreciates that the regulatory landscape for foreign collaborations in research is changing, and we continue to build on existing relationships with federal authorities to ensure we align with current requirements.

As you requested, we performed an extensive review of Dr. Zheng's research activities on the questioned grants. Our review indicates the following engagements are on-going, however, it appears almost all (as noted) predate his employment at Ohio State. In addition, Dr. Zheng did not disclose any of this information to the university before and during his employment at Ohio State.

- Affiliations with at least five foreign entities to include: employment as a Professor at Third Affiliated Hospital, Sun Yat-sen University; Adjunct Professor at Fudan University and Haushan Hospital Affiliated with Fudan University; Director, Fudan University Institute of Rheumatology, Immunology and Allergy; Research Team Instructor at "Zheng Songguo Expert Work Station" Qujing No. 1 Hospital; and Distinguished Professor, Guilin Medical University.
- Evidence that Dr. Zheng has previous and/or current participation in numerous People's Republic of China (PRC) foreign government talent recruitment programs, including in the Sun Yat-sen University's Hundred Talents Program.
- Evidence of numerous foreign funding awards to Dr. Zheng including: two active NNSFC awards (81671611, 81871224) that are on-going; two NNSFC awards (31200678, 30728007) that have ended since Dr. Zheng's employment at Ohio State; a National Key R&D Award (2017YFA0105800) that appears to be on-going; and a Program for Guangdong Introducing Innovative and Entrepreneurial Teams award (2016ZT06S252) that we cannot confirm is active.
- Evidence of fifteen Chinese patents that list 'ZHENG Songguo' as an applicant or inventor. We cannot conclusively determine that they are all associated with Dr. Song Guo Zheng from Ohio State. However, many of the patents also list co-inventors who are known associates of Ohio State's Dr. Zheng.
- Evidence that Dr. Zheng has equity interests or holds/held key positions in a number of PRC-based companies including as Chief Scientist at Guangdong Vitalife Biotechnology Co. Ltd. Through a search of the PRC corporate registry for 'ZHENG Songguo' we have identified possible affiliations with five to ten PRC based companies. As with the Chinese patents, there is insufficient evidence or available public information to determine if all of these correspond to Ohio State's Dr. Song Guo Zheng but there is circumstantial evidence supporting his association based on the research area and geographical locations of the companies. One of the associations (Zhuhai Zhongjing Tairuige Biotechnology Co. Ltd.) appears to have been initiated during Dr. Zheng's employment at Ohio State¹.
- Evidence of at least eleven unapproved Foreign Components, primarily consisting of research collaborations based at Sun Yat-sen University.
- Evidence of at least sixteen instances of items/resources including foreign funding that should have been reported as Other Support.

Dr. Zheng's repeated and on-going failures to report his affiliations and financial interests represent serious violations of Ohio State's Faculty Financial Conflict of Interest Policy (Section V and Procedures Section I) (Ex. 1); Ohio State's Faculty Conflict of Commitment Policy (Section V) (Ex. 2); and the

¹ The corporate registry records for this company lists a 'Huang Feng' as a 'Supervisor'. Dr Zheng has a frequent collaborator at Sun Yat-sen University by that name, suggesting that this is a real affiliation for Ohio State's Dr. Zheng. (Exhibit 5 - OSU Media Search - Tab 39, pg. 4)

Faculty Paid External Consulting Policy (Sections II and III) (Ex. 3). Our review clearly demonstrates that Dr. Zheng knew from various university communications and his filing of required COI forms that he was required to disclose his external affiliations and financial interests to Ohio State and the federal government and yet he repeatedly failed to do so. As a result of Dr. Zheng's omissions to Ohio State, the university treated him the same as other faculty members that transfer from other institutions. This included working with him to transfer grants from his prior institution to the university and facilitating applications for new grants from the NIH. He submitted false information, committed frauds on Ohio State, and misled the university. Those frauds have resulted in the university unknowingly submitting inaccurate or incomplete information to NIH on his behalf.

Dr. Zheng was placed on unpaid leave in May all charging to his awards was suspended, and members of his lab were placed on administrative leave. At this point, Dr. Zheng's NIH awards have been transferred to a new PI, his laboratory is shut down, and four of the lab members have resigned. The last two laboratory members were terminated via a reduction in force on August 4, 2020, effective immediately. Finally, the Office of Research has filed a formal complaint of grave misconduct against Dr. Zheng under the university's applicable disciplinary process. That matter is moving forward with a recommendation of termination of Dr. Zheng's tenure and employment at Ohio State.

I. Review Methodology

To review and respond to the concerns outlined in your letter, Ohio State assembled an internal team from multiple offices within the university including the Offices of Research, Compliance and Integrity, Technology Commercialization, and Legal Affairs, as well as individuals from the university's College of Medicine. We also sought the guidance and assistance of special counsel from the nationally-recognized law firm, Ropes & Gray LLP in Boston, which has extensive expertise in federal grants compliance.

Our multi-faceted review included: a review of limited documentation provided by Dr. Zheng;² extensive review of publications, grant applications, progress reports, and conflict of interest disclosures; targeted search of e-mails for references to talent recruitment programs and other relevant search terms (e.g., Sun Yat-sen University), using key words in English and Mandarin provided by Dr. Patricia Valdez. The university also sought the assistance of Ropes & Gray's PRC office to conduct a media review, a company and patent search in China as well as to provide Chinese language translation services. (Ex. 5) While the university's internal and external review was extensive, we were not able to interview Dr. Zheng. Therefore we had to rely solely on publically available information and our own limited internal records to conduct our review. We have noted the instances in which we cannot make a definitive determination due to the lack of available corroborating or conflicting evidence.

We have reviewed Dr. Zheng's activities since his arrival at Ohio State in January 2019, but have not considered events that occurred prior his arrival except for instances where they carried over to Ohio State (e.g., transfer of administration of a grant from Pennsylvania State University (Penn State) to Ohio State). More specifically, Ohio State has not reviewed grants or publications not affiliated with Ohio State.

II. Dr. Zheng's PRC Affiliations and Activities

In the course of our investigation, which remains ongoing, we identified a number of Dr. Zheng's affiliations and activities with institutions or individuals in the PRC that raise concerns. Dr. Zheng failed

² Dr. Zheng email communication to Dr. Jennifer Yucel dated May 10, 2020. (Ex. 4)

to disclose any of these affiliations and activities (described below) to Ohio State in the expected and required reporting processes.

A. Appointments and Affiliations

Dr. Zheng appears to have held multiple positions at various PRC universities and institutions since 2005. All of these positions appear to have initiated before Dr. Zheng came to Ohio State and appear to have continued after his arrival at Ohio State. In addition, none of the positions were disclosed, as required, to the university: (1) Professor and Postdoctoral Supervisor at the Third Affiliated Hospital of Sun Yat-sen University; (2) Adjunct Professor at Fudan University and Haushan Hospital Affiliated with Fudan University; (3) Director, Fudan University Institute of Rheumatology, Immunology and Allergy; (4) Research Team Instructor at “Zheng Songguo Expert Work Station,” Qujing No. 1 Hospital, and Yunnan Province; and (5) Distinguished Professor, Guilin Medical University. More detail on Dr. Zheng’s affiliations and appointments is provided in Exhibit 6.

It appears that Dr. Zheng had funding from multiple Chinese sources. All of these foreign funding sources appear to have initiated before Dr. Zheng came to Ohio State and none of them were disclosed to the university. Dr. Zheng appears to have sought and obtained research funding through the National Natural Science Foundation of China (NNSFC). We have located information on four NNSFC grants, two of which have effective periods after Dr. Zheng’s hire in January 2019 and are associated with Sun Yat-sen University. We have identified other foreign funding associated with Dr. Zheng either by website pages, news releases, or cited by Dr. Zheng in his publications. This includes foreign support under the NSFC Key & General Programs, Ministry of Science & Technology 973 Program, Shanghai Science & Technology Commission Fundamental Key Program and Chinese Academy of Sciences Hundred Talents Program³; the Program for Guangdong Introducing Innovative and Entrepreneurial Teams (#2016ZT06S252)⁴; and a National Key R&D Award (2017YFA0105800)⁵. More detail on Dr. Zheng’s foreign funding is provided in Exhibit 7.

From the information Ohio State was able to obtain as noted above, Dr. Zheng appears to have affiliations with other foreign institutions, including affiliations as a “talents program” member. Dr. Zheng appears to have participated in a number of PRC “Talent Programs,” including the Sun Yat-sen University Hundred Talents Program⁶. Our review identified a number of webpages, news reports, and other documents⁷ that contain references to Dr. Zheng’s participation in the Hundred Talents Program, the National Thousand Talents Program⁸, and the Pearl River (aka Zhu Jiang) Talent Program of Guangdong Province⁹. Based on one news website, it also appears that Dr. Zheng also participated in a local Talent

³ Information on this funding from Institut Pasteur of Shanghai website-Institut Pasteur of Shanghai Discovers a New Function Regulation Mechanism of Regulatory T Cells (Exhibit 5, Tab 20)

⁴ The Program for Guangdong Introducing Innovative and Entrepreneurial Teams funding appears to have been awarded in 2016 and our understanding is that it typically spans three to five years.

⁵ The National Key R&D funding appears to have been awarded in 2017 and our understanding is that it typically spans 4.5 years.

⁶ Introduction to the Postdoctoral Supervisors for 2020 on the Sun Yat-sen University No. 3 Hospital website (Exhibit 5, Tab 1).

⁷ We located a flyer with his biography on Dr. Zheng’s laptop computer, which lists some of the affiliations identified above. The flyer was prepared for an October 2019 speech at Sun Yat-sen University. (Ex. 9)

⁸ University Personnel Recruitment Website-Notice of the Third Affiliated Hospital of Sun Yat-sen University on Public Recruitment of Research Assistant for Leading Talent Prof. Zhen Songguo. (Exhibit 5, Tab 29)

⁹ 2014 Enrollment Catalog of Sun Yat-sen University for Doctoral Students (Exhibit 5, Tab 7) and Sun Yat-sen University Pearl River Announcement. (Exhibit 5, Tab 60)

Program in the Nanhai District of Foshan City via the company Vitalife, for which he was required to sign a contract with Vitalife for at least three years¹⁰. It is difficult for us to determine if these affiliations are still active. More detail on Dr. Zheng's foreign talent program affiliations is included in Exhibit 8.

As noted above, Dr. Zheng appears to have equity interests or key positions in at least one, if not more, PRC-based commercial enterprises that appear to have been initiated before Dr. Zheng came to Ohio State. The university did not receive any disclosures as to these interests as required. In a news release from Vitalife in 2018, Dr. Zheng is listed as the Chief Scientist at Guangdong Vitalife Biotechnology Co. Ltd, a biotech company located in Foshan, Guangdong Province¹¹. The news release includes multiple photographs of Dr. Zheng at a ceremony and multiple meetings with various parties helping us to clearly identify that this is the correct Dr. Zheng. A search of the PRC corporate registry indicated that an individual named 'ZHENG, Songguo' is a current or former shareholder of ten Chinese biotechnology companies. Exhibit 10 Five of the companies appear to describe affiliations that were on-going in 2019 and five appear to be before 2019. We cannot be certain that the individual listed is Dr. Zheng from Ohio State based on the corporate registry information alone. None of the companies have websites or sufficient presence in the public domain for us to confirm if each is Dr. Zheng from Ohio State. That said, these companies are in the biotechnology industry and most are located in the provinces where Dr. Zheng has his academic affiliations, which suggests that they may be real associations. Similarly to the caveat regarding talent programs, it is difficult for us to determine if Dr. Zheng's affiliation with these companies is active. More detail on these commercial affiliations is included in Exhibit 10.

After notifying Dr. Zheng on May 6, 2020 of the concerns raised regarding possible undisclosed foreign affiliations and funding, on May 10, 2020 Dr. Zheng emailed Drs. Yucel and Mohler a letter and copies of five documents related to his activities in PRC¹². We have not been able to validate the authenticity of these documents or Dr. Zheng's representations about them. Generally, however, the statements Dr. Zheng made in the letter do not appear to be entirely supported by the documents. For example, regarding NNSFC grant 81671611, Dr. Zheng refers to it in the letter as a "*small training fund*" for which his colleague, Huang, "*used my name . . . without informing me.*" A review of the grant application Dr. Zheng attached to the letter does not appear to support the claim that the grant was for training, and it does appear to rely heavily on Dr. Zheng's scientific expertise and known interests. In addition, Dr. Zheng cites that award on a number of publications as supporting the research in the publication.

During our review, we located an email in which Dr. Zheng intentionally acted to mask his affiliation with Sun Yat-sen University. In a February 2, 2019 email to a collaborator about a draft manuscript, Dr. Zheng stripped the reference to his affiliation with Sun Yat-sen University, moved himself from first to last author, and made the last author, who listed an affiliation with Sun Yat-sen University, the first author. Dr. Zheng wrote "*Author order and affiliation need to be changed as I edited (please see attachment). That way meets the award conditions of SYSU. To protect my safety, my affiliation has only to be listed with US affiliation only now.*" (Ex. 11) Dr. Zheng's email exchange strongly suggests that: (1) Dr. Zheng had grant funding from or through Sun Yat-sen University; (2) the funding source likely

¹⁰ Nanhai Today News Website-Interim Measures for the Identification of Talents by Category in Nanhai District, Foshan Ohio State University. (Exhibit 5, Tab 28)

¹¹ Local News Report - Prof Zheng Songguo's Appointment Ceremony and Academic Exchange Conference. (Exhibit 5, Tab 25)

¹² Email from Dr. Zheng to Drs. Yucel and Mohler, May 10, 2020 and attachments (Ex. 4)

included conditions for authorship and affiliation disclosures; (3) Dr. Zheng was actively engaged in research at Sun Yat-sen University; and (4) Dr. Zheng was intentionally hiding these activities.

Despite his obvious research role at Sun Yat-sen University, Dr. Zheng never mentioned this research role, not in February 2019 when he joined Ohio State, nor in the months preceding when he applied for employment. In fact, the terms and conditions of the job application Dr. Zheng filled out include the following language:

“I certify that all of the information furnished in this employment application and/or additional documents are true and complete to the best of my knowledge I understand that providing any false information or omitting any material information on my application materials or in the interview process will be sufficient grounds for rejection of the application, or termination of employment whenever discovered.”

Neither Dr. Zheng’s application, nor his CV include any reference to a research role at Sun Yat-sen University. Moreover, Dr. Zheng made no mention that he was under investigation at Penn State for failing to have satisfied the terms and conditions of NIH funding owing to undisclosed Sun Yat-sen University and Talent Program activities. In fact, we only learned about the Penn State investigation and Dr. Zheng’s denial of the allegations to Penn State via your April 27, 2020 letter. Dr. Zheng’s prior knowledge of questions and allegations regarding his affiliations with Sun Yat-sen University and PRC Talent Programs gained from the Penn State investigation makes his statements in the May 10, 2020 email very problematic.

B. Publications

Dr. Zheng’s publication record—including those articles published since his arrival at Ohio State—includes multiple articles published in collaboration with Sun Yat-sen University. We conducted a thorough review of articles published during his employment at Ohio State—from 2019 to the present—as part of our review. For the 26 publications authored in 2019 and 2020, Dr. Zheng included only his affiliation with his U.S.-based employer, Ohio State. (Ex. 12) However, before Dr. Zheng came to Ohio State, it appears that he frequently listed a joint affiliation. We located 23 publications in which Dr. Zheng stated that he was affiliated with both his domestic institution—then, Penn State— and the Third Affiliated Hospital of Sun Yat-sen University. (Ex. 13)

In addition to the February 2, 2019 email discussed above, we found other email evidence reflecting Dr. Zheng’s efforts to erase his Sun Yat-sen University affiliation in three previously published articles. In email chains from April 2020, Dr. Zheng, or one of his collaborators, contacted three journals to remove Dr. Zheng’s affiliation with Sun Yat-sen University from articles published in 2017 and 2018. (Ex. 14) Dr. Zheng claimed in his May 10, 2020 email to Drs. Yucel and Mohler that the dual affiliations that had been included in these publications were innocent “errors.” He wrote:

“I understand that NIH has this concern [about undisclosed PRC affiliations] since several previous publications listed me with two affiliations ([Penn State] and other affiliations). As these manuscripts were submitted from my collaborators and they considered that this facilitates their international collaboration [sic]. Nonetheless, when I found these errors, I took actions to correct them. For example, JCI article has been changed to only an affiliation with [Penn State]; Nat Commun had an erratum for correcting the error now. Other several article corrections are under process since it takes time. The evidence was saved on my office PC, I will provide you when it is available.”

When viewed in light of his February 2, 2019 email, Dr. Zheng’s statements above strongly suggest that he was actively engaged in an intentional and sustained effort to misrepresent and hide his foreign affiliations.

In reviewing Dr. Zheng’s publications, we also evaluated them for evidence of possible reporting failures for “Other Support” and “Foreign Components.” Our findings are provided below in sections III (B) and III (C).

C. Patent Information

We were able to locate 15 undisclosed Chinese patents that list “ZHENG Songguo” (note: in Chinese: “郑颂国”) as either applicant or inventor. While we cannot confirm that this is the same Dr. Song Guo Zheng for each of these patents, a number of the patents—nine of the fifteen—also include individuals who worked in Dr. Zheng’s laboratory at Ohio State, including Ms. Ju Hua Wang (his wife) and Mr. Youqui Xue (an unpaid visiting scholar). All of the Chinese patent applications were filed prior to Dr. Zheng coming to Ohio State and none were disclosed to the university.

The CV that Dr. Zheng provided to Ohio State during his application process included a section for disclosing patents. (Ex. 15) In that section of his CV, Dr. Zheng lists only a single patent: US 8,951,769B2, “Methods and Compositions for expanding and stabilizing natural regulatory T cells.” (2015). This patent includes only U.S. inventors and was assigned to the University of Southern California, one of Dr. Zheng’s previous employers. A detailed list of our findings around PRC patents is included in Exhibit 16.

III. National Institutes of Health and Ohio State Reporting Requirements

As an NIH grantee, Ohio State recognizes that it has an obligation to screen and manage its investigators’ outside interests to avoid conflicts of interest in funded research. The university takes this responsibility very seriously. NIH requires three distinct, but often overlapping, reporting duties: Financial Conflicts of Interest (“FCOI”), Other Support, and Foreign Components. Ohio State maintains policies and processes for faculty disclosures that ensure it meets these requirements. These include the Faculty Financial Conflict of Interest Policy, the Faculty Conflict of Commitment Policy, and the Faculty Paid External Consulting Policy. Ohio State requires training for investigators with regard to these issues. Collectively, through these documents and processes, faculty such as Dr. Zheng are reminded of their duties to report and in most cases seek pre-approval for, outside affiliations, consulting, teaching, research, collaboration, and other activities. As noted earlier in this report, Dr. Zheng did not disclose any foreign affiliations or financial interests to the university in direct violation of the university policies relating to conflicts of interest and commitment.

A. Financial Conflict of Interest

Ohio State follows the U.S. Public Health Service (PHS) Conflict of Interest regulations, which require investigators engaged in PHS-supported research to disclose to their institutions all significant financial interests (“SFIs”), plus reimbursed and sponsored travel, related to their institutional responsibilities.

Under 42 C.F.R. § 50.604(e), researchers who receive NIH grant awards must disclose to their institution each SFI that is related to their institutional responsibilities. Investigators must report their SFIs as well

as those of spouses and children, to the institution's designated officials before an initial application for any NIH funding, at least annually thereafter, and within 30 days of acquiring or discovering a new SFI. A SFI is defined as one or more of the following interests of an investigator (and those of the investigator's spouse and dependent children):

- (i) For a publicly traded entity: remuneration received from the entity in the twelve months preceding the disclosure and the value of any equity interest in the entity as of the date of disclosure that, when aggregated, exceeds \$5,000. For purposes of this definition, remuneration includes salary and any payment for services not otherwise identified as salary (e.g., consulting fees, honoraria, paid authorship); equity interest includes any stock, stock option, or other ownership interest, as determined through reference to public prices or other reasonable measures of fair market value;
- (ii) For a non-publicly traded entity: remuneration received from the entity in the twelve months preceding the disclosure that, when aggregated, exceeds \$5,000, or when the Investigator (or the Investigator's spouse or dependent children) holds any equity interest (e.g., stock, stock option, or other ownership interest); and
- (iii) Intellectual property rights and interests (e.g., patents, copyrights), upon receipt of income related to such rights and interests.

Ohio State uses these same definitions for the Ohio State disclosure policy for PHS-funded faculty and employees. Exceptions are included in the definition; however, these exceptions do not include funds from foreign institutions of higher education or a government of another country (which includes local, provincial, or equivalent governments of another country).

In March 2018, NIH issued guidance reminding investigators that this requirement includes funding from foreign governments and universities. NIH stated: *"Investigators, including sub-recipient investigators, must disclose all financial interests received from a foreign Institution of higher education or the government of another country (which includes local, provincial, or equivalent governments of another country)."*

At Ohio State, the limits of the exception have been clearly stated long before NIH's March 2018 statement. In listing the exceptions, Ohio State's Faculty Financial Conflict of Interest Policy emphasizes that any exception is applicable to only U.S. entities, stating that reporting *"do[es] not include income from seminars, lectures or teaching engagements sponsored by a federal, state or local government agency, an accredited U.S. college or university, a U.S. academic health center, or a U.S. research institution that is formally affiliated with a U.S. college or university."* Nor does it include *"income from serving on advisory committees or review panels for a federal, state or local government agency, an accredited U.S. college or university, a U.S. academic health center, or a U.S. research institution that is formally affiliated with a U.S. college or university."* Reporting requirements for funding from foreign institutions has been express and clear for the length of Dr. Zheng's tenure at Ohio State.

In addition to their personal SFIs, under 42 C.F.R. § 50.603, investigators must disclose reimbursed travel or sponsored travel (i.e., that which is paid on behalf of the Investigator and not reimbursed to the Investigator so that the exact monetary value may not be readily available) that is related to their institutional responsibilities. While the regulation sets no threshold for reporting, NIH policy allows institutions to adopt a de minimis threshold up to \$5,000. At Ohio State, however, we have set no

threshold. The Faculty Financial Conflict of Interest Policy states that *“all project directors, principal investigators or senior/key personnel . . . must disclose the occurrence of any reimbursed or sponsored travel related to their institutional responsibilities.”*

Additionally, the federal regulations include an exception for travel sponsored or reimbursed by a U.S. federal, state, or local government agency, a U.S. institution of higher education or an affiliated research institute, an academic teaching hospital, or a medical center. Again, our policy mirrors this standard, stating that SFIs do not include *“income from seminars, lectures or teaching engagements sponsored by a federal, state or local government agency, an accredited U.S. college or university, a U.S. academic health center, or a U.S. research institution that is formally affiliated with a U.S. college or university.”* It also excludes *“income from serving on advisory committees or review panels for a federal, state or local government agency, an accredited U.S. college or university, a U.S. academic health center, or a U.S. research institution that is formally affiliated with a U.S. college or university.”* Outside these exclusions, Investigators must disclose all SFIs that are related to their institutional responsibilities. Once disclosed, institutions must review reported interests to determine if they represent a potential FCOI, meaning an SFI that *“could directly and significantly affect the design, conduct, or reporting of PHS/NIH-funded research.”* If so, then the conflicting financial interest must be eliminated or managed.

1. Ohio State Processes for SFI Reporting and FCOI Review

Ohio State policies and processes for SFI reporting and FCOI review require faculty to report outside activities involving compensation so that any real or perceived financial conflicts can be appropriately managed and disclosed to federal funding agencies, as required.

Paid external consulting activities must be reported as SFIs if they meet the reporting threshold and must be approved in advance. Ohio State policy seeks to both promote faculty member engagement in outside activities that support Ohio State’s mission, and to protect itself from conflicts of interest that may arise from external work. To avoid and manage conflicts, the Faculty Paid External Consulting Policy requires that *“[a] faculty member must complete the Paid External Consulting Approval Form for each consulting arrangement. These forms shall be filed with the [Tenure Initiating Unit (TIU)] chair or, in the case of an administrator, with the individual to whom he or she reports. All paid external consulting related to one’s area of expertise requires prior approval.”*

Additionally, as described above, Ohio State’s Faculty Financial Conflicts of Interest Policy mirrors the PHS regulatory requirements. Faculty members paid on PHS awards are required to complete Ohio State’s annual electronic conflict of interest (eCOI) disclosure. This disclosure provides the information necessary for Ohio State to meet its obligations as a recipient of PHS research funding in accordance with 42 C.F.R. Part 50, Subpart F and the NIH Grants Policy Statement. Investigators using the eCOI system receive communication from the Office of Research advising them to be truthful and complete. Over the last year, we have re-emphasized the importance of clearly disclosing any foreign affiliation, regardless of remuneration or compensation. For the 2019 eCOI cycle (which opened in April 2019), significant updates were made in this space because we wanted to capture additional information related to foreign affiliations and to have a space for investigators to disclose this information. We wanted to better capture the full picture of investigator activities related to foreign affiliations. This would enable us to put appropriate control mechanisms in place and ensure accurate reporting to federal agencies, as applicable.

First, we expanded the content of our eCOI disclosure process so that it expressly addresses foreign relationships and ties, such as Talent Programs, and specific communications from the NIH, the FBI, and

other federal agencies. The 2019 form stated: *“When completing the form, please remember to fully disclose all external financial interests, affiliations, fiduciary roles, activities and relationships, including any with foreign entities that could reasonably be related to your Ohio State responsibilities. This includes participation in any foreign talent programs (e.g., Thousand Talents, Yangtze River Scholars).”*

Also, since 2019, eCOI filers have had to affirmatively acknowledge the following:

“Federal regulations and university policy also require the disclosure of financial interests and affiliations involving foreign entities. Examples of foreign relationships include:

- Participating in a Foreign Talent Recruitment Program (e.g., Thousand Talents Program, Yangtze River Scholars);*
- Serving as Principal Investigator for a foreign University;*
- Holding an academic appointment at a foreign University;*
- Conducting entrepreneurial activities related to your area of research with a foreign company or other entity (e.g., receiving personal consulting payments or holding any ownership interest);*
- Receiving sponsored/reimbursed travel, or other types of support (e.g., laboratory space, living expenses, gifts) from a foreign government, a foreign academic institution, or another foreign entity.”*

Further stressing the need to be truthful and complete, starting with the 2019 eCOI form, filers also must certify:

“To the best of your knowledge, in the past 12 months, have you or an immediate family member had any financial or fiduciary interest in, or any foreign affiliation with, an external company, entity, or organization (either for-profit or not-for-profit) that could reasonably appear to be related to your institutional (Ohio State) responsibilities? Foreign affiliations involve any outside professional appointments, activities or relationships (paid or unpaid), including those involving a foreign institution of higher education, the government of another country, or participation in foreign talent programs (e.g., Thousand Talents Program, Yangtze River Scholars).”

These elements of the Ohio State eCOI system, which expressly include more than SFIs and require reporting of unpaid outside activities, along with the other resources, training, and guidance provided and available to investigators, make plain to investigators what must be disclosed, the deadlines for completion, and the need to be truthful and complete.

As with our peers, Ohio State relies on investigator disclosures to properly manage any potential financial conflicts of interest, as defined in 42 C.F.R. Part 50, Subpart F, which may arise between an individual’s outside financial activities and their activities at Ohio State. Consistent with the PHS requirements, Ohio State policy states:

“Financial interest disclosures must be filed annually. Updates must be made to the disclosure within thirty (30) days if the filing party acquires any new financial interests, external professional activities, or business or financial transactions that were previously unreported, or if changes occur in the circumstances of a previously reported transaction or activity.”

A new Ohio State investigator seeking to obtain NIH funding, or seeking to transfer NIH funding from a prior employer institution, must complete an eCOI report promptly. A new investigator works with a sponsored program officer in the Ohio State Office of Sponsored Programs, and for investigators in the College of Medicine like Dr. Zheng, through an intermediary in the College of Medicine's Grants Management Office, to identify and assure that all required processes, including eCOI reporting, are complete before submissions are made to the NIH for funding. Additionally, new employees with paid outside activities are required to obtain pre-approval through the chain of command within their college and completion of a Paid External Consulting Approval Form.

The review process for SFIs and potential FCOIs is two-tiered. The first level of review is within an investigator's home component, such as the College of Medicine, and the second level is through the Ohio State Office of Research Compliance, within the Office of Research, providing additional consistency across the Ohio State enterprise. Additionally, Ohio State's Faculty Conflict of Interest Advisory Committee ("COIAC"), which is composed of faculty members from across Ohio State's fifteen schools and colleges, provides a diverse set of voices to ensure a robust review of potential conflicts. When conflicts are identified, COIAC recommends either elimination or prohibition, or, if appropriate, a conflict management plan. In these ways, the Ohio State system parallels the NIH system for review of potential conflicts of interest among our employees, which also relies on a two-tiered review system and a campus-wide advisory committee review.

2. Dr. Zheng's Failure to Follow SFI Reporting Requirements

Despite training, resources, directives, and acknowledgements, Dr. Zheng repeatedly failed to disclose to Ohio State any of his PRC or other external affiliations¹³. Dr. Zheng disclosed no outside activities or affiliations, instead he kept the university in the dark about these relationships.

If Dr. Zheng had followed the required policies and practices, and answered appropriately and truthfully, he would have submitted the Office of Academic Affairs (OAA) Form 201, "Regular Faculty Paid External Consulting Approval Form," which states that the form is needed for "*[a]ll outside compensated consulting arrangements related to a faculty member's professional expertise, including those undertaken during off-duty periods.*" At a minimum, Dr. Zheng should have sought university pre-approval for his positions at Sun Yat-sen University and the other academic affiliations we have identified including his relationship and position at Vitalife. The university has no record of Dr. Zheng having filed any Faculty Paid External Consulting forms or receiving approval(s).

Dr. Zheng was well aware of these disclosure requirements and expectations. He completed various required training courses as part of his onboarding process, including the national CITI online course for the responsible conduct of research with a specific module on conflicts of interest. Dr. Zheng took the CITI training in February 2019, on the exact same day he completed his 2018 eCOI disclosure. In April 2019, he received email notifications directing him to disclose all foreign affiliations. As noted above, the 2019 eCOI disclosure period included expanded instructions on affiliations and activities to report. Faculty completing eCOI forms had to acknowledge the eCOI instructions, which included express statements regarding requirements to disclose foreign positions, affiliations, or entrepreneurial activities.

Since coming to Ohio State, Dr. Zheng submitted two of three required annual eCOI report filings. The first—his 2018 disclosure—was filed on February 12, 2019, around the time of his initial hire; the second

¹³ Dr. Zheng's 2018 and 2019 eCOI Disclosures (Ex. 17)

was completed on April 16, 2019, one day after the 2019 eCOI window opened for faculty. Contrary to the instructions and his certifications to the university, Dr. Zheng disclosed no significant financial interests, including no foreign travel reimbursement or sponsored travel, in either report.

If Ohio State's media search and review of internal documents are correct, Dr. Zheng had SFIs and possible travel expenses to report. We are not aware of how much compensation or remuneration Dr. Zheng has received through the various external academic, grant, Talent Program, and commercial entities described above. However, we understand that these types of relationships typically include personal financial compensation as well as other kinds of research. Moreover, he was obligated to disclose any equity interest in a non-publicly traded company, or receipt of any sponsored or reimbursed travel from any source. The Ohio State policy, as noted above, has no de minimis exception for personal compensation or travel payments.

To date, Dr. Zheng has not submitted his 2020 eCOI disclosure form, which opened on April 13, 2020 and was due on June 30, 2020, despite Ohio State's numerous communications and reminders of the deadline. Even without a 2020 disclosure, the activities noted above should have been disclosed during his previous reports. In 2020, Dr. Zheng was formally reminded of the deadlines for the eCOI process and the new content requested therein, via five university-wide emails sent from the Office of Research on January 23, April 6, April 14, May 1, and May 12. Despite that, Dr. Zheng repeatedly failed to reveal these critical conflicts, and has, we believe, actively tried to conceal the information. This has led us to submit inaccurate or incomplete grant applications to the NIH on Dr. Zheng's behalf, as detailed more fully below.

By failing to disclose the external relationships effective in 2018 or 2019, Dr. Zheng circumvented all of the systems and controls that we had in place to identify and manage FCOIs. He also circumvented the additional tools that have been added in the last year to ensure compliance with other reporting obligations, such as NIH's requirement for Other Support disclosures, discussed below.

In sum, we located no records that Dr. Zheng disclosed any PRC or other external affiliations or financial interests as he should have to the College of Medicine, the Office of Research, the Office of Academic Affairs, or the Office of Sponsored Programs. Dr. Zheng did not disclose his external PRC appointments or research grants to his divisional director, chair, or dean. Dr. Zheng's actions represent serious non-compliance with Ohio State's policies regarding conflict of interest and conflict of commitment reporting.

B. NIH's Other Support Reporting Requirement

As part of the grant application process, NIH requests information about other relationships that may cause conflicts for an investigator. Indeed, as explained in the CITI training module that Dr. Zheng completed on February 12, 2019, a category of conflicts referred to as "conflicts of commitment" arises when investigators have other commitments that may divert or divide their attention and responsibilities. For NIH to address these risks, investigators must disclose "Other Support" including foreign teaching, and solicitation of grants for third parties, such as a foreign university, so that it can effectively evaluate whether an individual is qualified and has capacity, e.g., sufficient time, to receive NIH funding for a particular project, and whether funding may inappropriately overlap Other Support the investigator is receiving. As noted earlier in this report, Dr. Zheng did not disclose at least sixteen instances of resources and materials that should have been reported to NIH as Other Support as detailed below.

1. Ohio State Policies for Other Support Reporting

The eCOI reporting process, as updated in April 2019 and described above, includes specific questions designed to elicit information for Other Support reporting. While it is not a substitute for investigators being aware of and following guidance from NIH on these topics, it is a tool that serves to highlight the information that must be disclosed. Over the last two years, we have been engaged in an extensive communications effort to ensure that all investigators are fully informed of their reporting duties. These efforts include rolling out additional education and training materials, and distribution of specific faculty notices.

Further, Ohio State, through the Office of Academic Affairs, maintains the Faculty Conflict of Commitment Policy, which states that “Ohio State University full-time faculty members, including administrators with faculty appointments, owe their primary professional allegiance to Ohio State, and their primary commitment of time and intellectual energies should be to the education, research, service and scholarship programs of the institution.” This policy is posted on the Office of Academic Affairs website and is a publicly available document. Faculty members are required to disclose outside commitments to their department chairs and/or deans so that any conflicts can be appropriately managed.

This policy specifically includes the following examples of potential conflicts of commitment:

- Teaching at another university during on-duty periods in an academic year, or otherwise representing yourself as a faculty member of another university.
- Use of one’s professional expertise during on-duty periods in an academic year to provide services that compete with services provided by an academic or service entity within the university.
- Participating in private business activities to the detriment of your university education, research, scholarship or service responsibilities.
- Conducting research or novel scientific investigation as a private consultant to outside entities, which should be conducted more appropriately as research sponsored through the Office of Sponsored Research Programs.

Faculty are required to disclose and discuss external commitments with their department chairs and/or deans.

2. Dr. Zheng’s Failure to Follow Other Support Reporting Requirements

Despite NIH’s policy and guidance, Ohio State policy, and the many efforts we have made to communicate NIH requirements, Dr. Zheng provided no information on his PRC activities described herein. He did not provide disclosures required during the process to transfer NIH awards from Penn State to Ohio State, nor did he disclose during progress reporting on these awards while he has been at Ohio State. For example, for NIH/NIAMS grant R01AR059103-10, Therapeutic Immunoregulation Mediated by TGF-beta-induced iTregs in Autoimmune Arthritis, neither the transfer request Investigator’s Statement, nor the 2020 RPPR mentions Dr. Zheng’s PRC activities.

Dr. Zheng has been an investigator on NIH grants for more than 10 years, and if he was unsure whether Ohio State’s requirements might differ from his previous employer (Penn State), he received the answers in the form of the 2019 eCOI disclosure process and numerous communications regarding reporting requirements. With this knowledge, Dr. Zheng should have supplied this information to the university for all activities that were active in 2019 and 2020. For example, he should have included his positions at

Sun Yat-sen University, his other academic appointments, foreign grant support, and affiliations with PRC Talent Programs. Instead, none of these activities were disclosed in the NIH forms seeking approval for grants to be transferred to Ohio State from Penn State, or in the progress reports submitted on his NIH grants. In addition, we conducted a review of Dr. Zheng's publications for possible undisclosed Other Support, as set forth in Exhibit 18, and found at least sixteen instances of foreign funding or research materials provided to Dr. Zheng that we believe should have been reported as Other Support but were not.

C. NIH Policies for Foreign Component Disclosures

NIH preapproval is required for any "foreign component" in an NIH-funded award, regardless of whether NIH funds are used for that component. A foreign component is: "[t]he performance of any significant scientific element or segment of a project outside of the United States, either by the recipient or by a researcher employed by a foreign organization, whether or not grant funds are expended." Foreign components must be identified by an investigator in applications and in annual progress reports.

1. Ohio State Practices for Foreign Component Reporting

Investigators who receive NIH funding are required to comply with terms and conditions of NIH awards, including identifying and seeking pre-approval for foreign components. We have issued specific guidance to faculty to assist them to understand and remind them about the need to complete foreign component reporting. On the Office of Research Compliance website, the university provides multiple frequently asked questions ([FAQs](#)) that address foreign components and NIH reporting including the following frequently asked questions:

- (1) "What is the NIH definition of a foreign component, and has it changed?"
- (2) "How do I know if my NIH project has a foreign component, and how do I notify the NIH?"
- (3) "If a visiting scholar, student or postdoc is supported by a foreign entity (e.g., a university or foreign government fellowship) but the work is done at Ohio State, is this reported to the NIH as "other support" or as a "foreign component"?"
- (4) "How do I disclose international collaborations to federal research sponsors?"
- (5) "What if I author a publication that acknowledges federal (e.g., NIH, NSF, DoD, etc.) support for the work, and the publication has a foreign co-author and/or acknowledges support from a foreign entity – is that an international collaboration I should disclose?" and
- (6) "What should I do if I'm not sure if a collaboration rises to the level of a foreign component or other support where disclosure is required by the NIH?"

2. Dr. Zheng's Failure to Follow Foreign Component Reporting Requirements

In 2019, we submitted grant transfer documents and progress reports with the information Ohio State believed to be true and accurate for Dr. Zheng's research activities. Dr. Zheng neither sought, nor received, approval from the university or NIH for any foreign component of his NIH-funded federal grants. Further, Dr. Zheng affirmatively represented in materials to the university that he had no foreign components. To date, Dr. Zheng has not provided any information to Ohio State about his PRC activities described herein, save to minimize and deny them as he did in his May 10, 2020 email. Therefore it is difficult for us to discern with certainty the degree to which his activities in PRC overlapped with his NIH-funded activities and/or involved foreign components. However, through review of his current and

past publications, we have identified several instances in which Dr. Zheng cited a dual-affiliation with Sun Yat-sen University in publications from Penn State (Ex. 13). In addition, our review appears to show at least eleven unapproved foreign components on research conducted while at Ohio State (Ex. 19). Without the ability to directly question Dr. Zheng on the specific involvement and contributions of the various foreign co-authors listed on the publications we cannot say for certain that all of the collaborations we identified would meet the NIH definition of a foreign component. However given the context and history it is likely that most, if not all, would be considered foreign components.

IV. Additional Evidence of Deception

Since coming to Ohio State, Dr. Zheng has had multiple other opportunities to disclose his external interests and activities to the university. Each time, he failed to do so. Specifically, faculty members are required to fully and truthfully disclose information regarding potential conflicts of interest and commitment when applying for positions at Ohio State, after employment begins, and periodically on an on-going basis throughout their tenure. In order to submit an application for a faculty position in the College of Medicine, the Ohio State employment application system requires that applicants read and agree to the Application Terms & Agreements, which states:

"I certify that all of the information furnished in this employment application and/or additional documents are true and complete to the best of my knowledge . . . I understand that providing any false information or omitting any material information on my application materials or in the interview process will be sufficient grounds for rejection of the application, or termination of employment whenever discovered." (Ex. 20)

Dr. Zheng submitted his application for employment at Ohio State in October 2018 (Ex. 15) and was hired in December 2018 as a Professor and Director of Research in the Division of Rheumatology and Immunology at the Wexner Medical Center. He was appointed as the Ronald L. Whisler Chair in Rheumatology and Immunology. During the hiring process, Dr. Zheng reported no current or on-going affiliations, foreign financial interests, or conflicts. He also did not report other support or foreign research components and he did not disclose that he was under investigation at Penn State for failure to disclose affiliations at Sun Yat-sen University and Talent Program involvement.

Dr. Zheng's application and associated materials—including his CV—list his previous work experience, academic appointments, and grant funding, but none of the documents he provided during the application process indicate any ongoing professorships or directorships with foreign institutions, nor did they list any current grant funding from the government of the PRC, the NNSFC, or relationships with any commercial entities including Vitalife.

V. The Impact of Dr. Zheng's Failure to Report to Ohio State

Ohio State takes its responsibility to its federal funding agencies very seriously. We strive to ensure compliance with federal requirements and implement best practices to protect proper expenditure of federal dollars and conduct research of the highest integrity. To do so, Ohio State—like our peers—relies on partnership with our researchers to fully disclose relevant and truthful information to both the university and the federal government. From our investigation, it is clear that Dr. Zheng's intentional and willful failure to disclose his foreign affiliations and activities secured him a faculty appointment through fraudulent omission of material information, it created impermissible conflicts of interest and commitment with his duties to the university, and it prevented us from providing full and complete

disclosure to NIH thereby obstructing us in our mission and duty to federal funding agencies and to the research community.

VI. University Actions, Proactive Measures and Process Improvements

Following receipt of your letter on April 27, 2020, the university took a number of steps to ensure the integrity of the research and preserve all relevant evidence. On May 1, 2020, the university physically secured all of Dr. Zheng's office and research spaces by changing the locks without notifying Dr. Zheng or his lab members that this was occurring¹⁴.

On May 6, 2020, Dr. Zheng and his lab members were asked to come to campus and each was notified of the concerns received, and provided notice of the university's investigation. Dr. Zheng was reassigned off-campus and his laboratory staff were all placed on administrative leave. Immediately prior to meeting with Dr. Zheng, his electronic access to university research services and locations was suspended and Dr. Zheng's university electronic devices were sequestered and imaged.

Also on May 6, 2020, Dr. Zheng's NIH grants were suspended (i.e., no billing, draw down, purchasing or new appointments) and with NIH's assistance, Dr. Zheng's NIH awards were transferred to a new PI, Dr. Wael Jarjour to complete the research projects. Dr. Zheng's laboratory was shut down permanently and four of Dr. Zheng's research staff have resigned. The remaining two research staff were terminated through a reduction in force and their employment ended on August 31, 2020. Following Dr. Zheng's indictment, he was placed on unpaid leave and the university is currently moving forward with the applicable university disciplinary process with a recommendation of termination of Dr. Zheng's tenure and employment at Ohio State.

Thank you for the opportunity to share this information with you. Ohio State is fully committed to ensuring compliance in its federal research programs and strives to actively engage with our federal partners on these matters. We continue to work on policies and procedures to strengthen and improve our COI process and welcome feedback from NIH on other best practices that we should be considering. We will continue to work with the HHS OIG and Department of Justice on this matter and will keep you informed of any additional relevant information. We look forward to your feedback and the opportunity to discuss additional questions or concerns you may have.

Sincerely,



Morley Stone, PhD
Senior Vice President for Research
Deciding Official

Cc: Dr. Song Guo Zheng
NIH Office of Policy for Extramural Research Administration [REDACTED]

¹⁴ Starting in mid-March, due to COVID19 conditions, all non-covid related research laboratories including Dr. Zheng's were closed and researchers were prohibited from coming to campus without specific approval from their college. To our knowledge Dr. Zheng was not on campus in April or May prior to the university locking down his office and lab spaces on May 1, 2020.

::Enclosures

Exhibit List

- Ex. 1: Faculty Conflict of Interest Policy
- Ex. 2: Faculty Conflict of Commitment Policy
- Ex. 3: Faculty Paid External Consulting Policy
- Ex. 4: May 10, 2020 Email Communication Zheng to Yucel and attachments
- Ex. 5: OSU Media Search
- Ex. 6: Foreign Affiliation Summary
- Ex. 7: Foreign Funding Summary
- Ex. 8: Foreign Talent Program Summary
- Ex. 9: Lingnan Forum Conference Flyer
- Ex. 10: Foreign Commercial Affiliation Summary
- Ex. 11: 2.2.19 email exchange Ryffel and Zheng
- Ex. 12: Zheng Publication Review - OSU 2019 - present
- Ex. 13: Zheng Dual Affiliation Publications 2015-2018
- Ex. 14: Email examples to remove Zheng Sun Yat-sen University Affiliation
- Ex. 15: Zheng OSUWMC Application and CV
- Ex. 16: Foreign Patent Summary
- Ex. 17: Zheng 2018 and 2019 eCOI Disclosures
- Ex. 18: Other Support Summary
- Ex. 19: Foreign Component Summary
- Ex. 20: OSUMC Application Terms and Conditions Example

Exhibit 6 - Foreign Affiliations

Dr. Zheng appears to have held multiple positions at various PRC universities and institutions since 2005. Some of these appear to be active after January 2019, meaning that they were ongoing during at least some part of the time since Dr. Zheng joined the Ohio State faculty. For others we have been unable to identify an end date, and at least one appears to have ended in 2012.⁷⁴ We have summarized our findings in **Table 1** and **Table 2** below.

Table 1: Affiliations Apparently Ongoing While at Ohio State

No.	Institution Name	Dr. Zheng's Position	Date
1.	Fudan University and Huashan Hospital Affiliated with Fudan University ⁷⁵	Adjunct Professor	2005–Present
2.	Fudan University Institute of Rheumatology, Immunology and Allergy ⁷⁶	Director	At least since 2014– Present
3.	The Third Affiliated Hospital of Sun Yat-Sen University ⁷⁷ <i>*Affiliation noted by NIH</i>	Professor/Postdoctoral Supervisor (<i>with laboratory group</i>)	2014–Present
4.	Qujing No.1 Hospital, Yunnan Province ⁷⁸	Research Team Instructor at ZHENG Songguo Expert Work Station	2015–Present
5.	Guilin Medical University ⁷⁹	Distinguished Professor	Unknown date–Present

Table 2: Affiliations Possibly Ended Before Joining Ohio State

No.	Institution Name	Dr. Zheng's Position	Date
1.	Key Subject of Transplantation Immunology, Ministry of Health ⁸⁰	Chief Academic Advisor	Since 2005–Unknown date
2.	Anhui Provincial Hospital ⁸¹	Guest Professor	Since 2007–Unknown date

⁷⁴ Our information suggests that Dr. Zheng served as a Visiting Professor with Nanjing Medical University Jiangsu Provincial Hospital from 2009 to 2012. See Nanjing Medical University Website, Prof. Zheng Songguo from University of Southern California and Dr. Ryffel from French Academy of Sciences give lectures at our university at Exhibit 5 Tab 19.

⁷⁵ See Fudan University Website—Introduction of Personnel Development at Exhibit 5 Tab 2.

⁷⁶ See Fudan University Institute of Rheumatology—Immunology and Allergy - Dr. Zheng Profile Page at Exhibit 5 Tab 3.

⁷⁷ See Introduction to the Postdoctoral Supervisors for 2020 on the SYU No.3 Hospital Website at Exhibit 5 Tab 1;

Interview of Dr. Zheng By e-Biotrade at Exhibit 5 Tab 4; Recruitment notice for 4 research assistants at “Prof. Zheng’s research group at SYU No. 3 Hospital” at Exhibit 5 Tab 5; Recruitment notice for 6 research assistants at “Prof. Zheng’s research group at SYU No. 3 Hospital” at Exhibit 5 6; 2014 Enrollment Catalog of Sun Yat-Sen University for Doctoral Students at Exhibit 5 Tab 7.

⁷⁸ See Yunnan Government News—Qujing No.1 Hospital Established “ZHENG Songguo Expert Work Station” at Exhibit 5 Tab 8; Qujing No.1 Hospital Website—Introduction of “ZHENG Songguo Expert Work Station” at Exhibit 5 Tab 9; Qujing No.1 Hospital Website—Work progress of “ZHENG Songguo Expert Work Station” at Exhibit 5 Tab 10.

⁷⁹ See Guilin Medical University—Profile Page of Dr. Zheng at Exhibit 5 Tab 11.

⁸⁰ See Fudan University Institute of Rheumatology—Immunology and Allergy—Dr. Zheng Profile Page at Exhibit 5 Tab 3.

⁸¹ See Anhui Provincial Hospital News Report—Guest Professor Zheng Songguo Wins the 2007 US James R. Klinenberg, MD Award at Exhibit 5 Tab 12; Anhui Provincial Hospital News Report—The Hospital Holds A National Education Class on Developments in Rheumatology at Exhibit 5 Tab 13; Anhui Provincial Hospital News Report—The Hospital Holds 2008 Anhui Provincial Rheumatology Summit at Exhibit 5 Tab 14.

Table 2: Affiliations Possibly Ended Before Joining Ohio State (cont.)

No.	Institution Name	Zheng's Position	Date
3.	Tongji Hospital Affiliated with Huazhong University of Science and Technology ⁸²	Guest Professor	Since 2014–Unknown date
4.	The State Key Laboratory of Respiratory Disease at Guangzhou Medical University ⁸³	Research Position	2017–Unknown date
5.	Shanghai East Hospital Affiliated with Tongji University ⁸⁴	Research Position	From ~2012–Unknown date

⁸² See Tongji Hospital Website—Prof. Zheng Songguo from Department of Medicine, College of Medicine, PSU, Hired as Guest Professor at Exhibit 5 Tab 17.

⁸³ See Annual Report of State Key Laboratory of Respiratory Diseases—2017 at Exhibit 5 Tab 18.

⁸⁴ See Chinese Medical Association Announcement—Projects Winning the 2012 China Medical Science and Technology Award at Exhibit 5 Tab 15; Shanghai East Hospital News Report—A Snapshot of Talent Team Building in Translational Medicine of Our University During the 12th Five-year Plan at Exhibit 5 Tab 16.

Exhibit 7 - Foreign Funding

PRC Grants

Dr. Zheng appears to have sought and obtained research funding through the NNSFC, at least some of which were ongoing after Dr. Zheng joined the Ohio State faculty. Dr. Zheng also appears to have participated in research projects funded by NNSFC grants awarded to other researchers. Summarized in **Table 3** and **Table 4** below are the identified NNSFC grant findings. Of note, Guilin Medical University's official website contains a profile page for Dr. Zheng, which states that he received research grants amounting to RMB 19.5 million (~USD 2.78 million) from the NNSFC. However, the website did not include additional details, and we have not found any other information corroborating this statement.⁸⁵

Table 3: Post-2019 NNSFC Grants

NNSFC Grant No.	Dr. Zheng's Role	Sponsoring Institution	Value of Grant Funding	Research Project	Effective Period
81671611 ⁸⁶ <i>*Funding noted by NIH</i>	Responsible Person	Sun Yat-Sen University	RMB 600,000 (~USD 85,700)	<i>All-trans retinoic acid stabilizes rheumatoid arthritis patients' natural regulation of T cells</i> (rough translation)	Jan. 2017–Dec. 2020
81871224 ⁸⁷ <i>*Funding noted by NIH</i>	Responsible Person	Sun Yat-Sen University	RMB 570,000 (~USD \$81,400)	<i>Regulation and mechanism of BAFF-BR3 signaling pathway on Tfh cell differentiation and its value in lupus</i> (rough translation)	Jan. 2019 - Dec 2022

Table 4: Pre-2019 NNSFC Grants

NNSFC Grant No.	Dr. Zheng's Role	Sponsoring Institution	Value of Grant Funding	Research Project	Effective Period
31200678 ⁸⁸	Participant (Awardee: Dr. LI Jing)	Tongji University	RMB 250,000 (~USD 35,700)	<i>Study on the Regulation Mechanism of Histone Demethylase KDM5B in Macrophage Polarization and Occlusive Bronchiolitis</i> (rough translation)	Jan. 2013–Dec. 2015
30728007 ⁸⁹ <i>*Funding noted by NIH</i>	Responsible Person	Tongji University	RMB 400,000 (~USD 57,100)	<i>Organ transplantation and transplantation immunity</i> (rough translation)	Jan. 2008–Dec. 2010

⁸⁵ See Guilin Medical University—Profile Page of Dr. Zheng at Exhibit 5 Tab 11.

⁸⁶ See Summary of NSFC# 81671611 at Exhibit 5 Tab 31.

⁸⁷ See Summary of NSFC# 81871224 at Exhibit 5 Tab 32.

⁸⁸ See Summary of NSFC# 31200678 at Exhibit 5 Tab 33.

⁸⁹ See Summary of NSFC# 30728007 at Exhibit 5 Tab 34.

Other Possible Grant Funding

A 2015 news release published by the Institute Pasteur of Shanghai, Chinese Academy of Sciences, states that Dr. Zheng provided guidance on a research project conducted at the Institute, which we believe was likely provided by Dr. Zheng in his capacity as a researcher at Shanghai East Hospital. This project received grant support from the “NNSFC Key & General Programs, Ministry of Science & Technology 973 Program, Shanghai Science & Technology Commission Fundamental Key Program and Chinese Academy of Sciences Hundred Talents Program, etc.” The research project was related to “new regulatory mechanism of regulatory T cell function.”⁹⁰

Other funding sources associated with Dr. Zheng were identified through publications. First, there is the Program for Guangdong Introducing Innovative and Entrepreneurial Teams (#2016ZT06S252), for which we also identified evidence of Dr. Zheng serving as a Talent program participant with this source, discussed in **Exhibit 8** and in publications.⁹¹ Second, we also found the National Key R&D Award (2017YFA0105800) cited in Dr. Zheng’s published work.⁹² With regard to the Program for Guangdong Introducing Innovative and Entrepreneurial Teams, our understanding is that it may be a 2016 award that can span anywhere from three-to-five years. The National Key R&D Award is a significant research grant that is awarded by the PRC Ministry of Science and Technology or in conjunction with another entity, such as the Chinese Academy of Sciences.⁹³ The award started in 2017 and should span about four-and-a-half years.

⁹⁰ See Institut Pasteur of Shanghai Website—Institut Pasteur of Shanghai Discovers a New Function Regulation Mechanism of Regulatory T Cells at Exhibit 5 Tab 65.

⁹¹ See e.g., The progress and prospect of regulatory T cells in autoimmune diseases, *J. of Autoimmunity* (2020) at Tab 66; A preclinical study—systemic evaluation of safety on mesenchymal stem cells derived from human gingiva tissue, *Stem Cell Research and Therapy* (2019) at Exhibit 5 Tab 67; 1,25-Dihydroxyvitamin D3 Ameliorates Collagen-Induced Arthritis via Suppression of Th17 Cells Through miR-124 Mediated Inhibition of IL-6 Signaling, *Frontiers in Immunology* (2019) at Exhibit 5 Tab 68 (all citing Guangdong Introducing Innovative and Entrepreneurial Teams (#2016ZT06S252)).

⁹² See e.g., Helios but not CD226, TIGIT, and Foxp3 is a Potential Marker for CD4+ Treg Cells in Patients with Rheumatoid Arthritis, *Cell Physiology Biochem.* (2019) at Tab 71; The cAMP-Adenosine Feedback Loop Maintains the Suppressive Function of Regulatory T Cells, *J. Immunology* (2019) at Tab 72; Differential roles of TNF α -TNFR1 and TNF α -TNFR2 in the differentiation and function of CD4+Foxp3+ induced Treg cells in vitro and in vivo periphery in autoimmune diseases, *Cell Death and Disease* (2019) at Exhibit 5 Tab 73 (all citing National Key R&D Award (2017YFA0105800)).

⁹³ See, e.g., IDA, A Brief Examination of Chinese Government Expenditures on Artificial Intelligence R&D, p. 17 (Feb. 2020) at Exhibit 5 Tab 61

Exhibit 8 - Foreign Talent Programs

Participation in PRC Talent Programs

Dr. Zheng appears to have participated in multiple PRC Talent Programs. These activities are summarized below.

1. Vitalife Tier 2 Talent in Nanhai District, Foshan City, Guangdong Province

(唯泰生物广东省佛山市南海区人才分类二类人才) (2018 – ~ 2021)

In 2018, Nanhai District, Foshan City, Guangdong Province published a list of recognized talents in the district for 2018.⁹⁴ Dr. Zheng was listed in the group of “Tier 2 Talent” of 2018 as an employee of Vitalife, a company that is described more fully below.⁹⁵ According to PRC government guidance on this program, Dr. Zheng is required to sign a contract with his employer under the program, i.e., Vitalife, with a term of no less than three years.⁹⁶

2. Leading Talent in the Sun Yat-Sen Hundred Talents Program (中山大学百人计划领军人才)
(Term Not Identified)

The official website of Sun Yat-Sen University listed Dr. Zheng as a “Leading Talent” in the Sun Yat-Sen Hundred Talents Program.⁹⁷ No publicly available information has been found to confirm when Dr. Zheng joined this program and whether his participation in the program continued after 2019.

3. National Thousand Talents Program (国家千人计划) (Term Not Identified)

Since 2014, Sun Yat-Sen University No. 3 Hospital has posted several research assistant recruitment notices on job search websites for Zheng’s research group at the hospital. The 2014 recruitment notice profiled Dr. Zheng as a participant in the National Thousand Talents Program.⁹⁸

In 2018, a news release from a Chinese biotech company, Vitalife, reported that Dr. Zheng had accepted the Chief Scientist position at the company. This article introduced Dr. Zheng as a participant in the National Thousand Talents Program.⁹⁹

However, publicly available information did not indicate when exactly Dr. Zheng participated in this program. Given that Dr. Zheng’s participation began no later than 2014 and participation in the

⁹⁴ See Nanhai Government Website - Notice on Publishing the List of the First Batch of Talents Identified by Category in Nanhai District, Foshan (for 2018) at Exhibit 5 Tab 26

⁹⁵ See Nanhai Government Website—List of the First Batch of Talents Identified by Category in Nanhai District, Foshan (for 2018) at Exhibit 5 Tab 27

⁹⁶ See Nanhai Today News Website—Interim Measures for the Identification of Talents by Category in Nanhai District, Foshan Ohio State University at Exhibit 5 Tab 28

⁹⁷ See Introduction to the Postdoctoral Supervisors for 2020 on the SYU No.3 Hospital Website at Exhibit 5 Tab 1

⁹⁸ See University Personnel Recruitment Website—Notice of the Third Affiliated Hospital of Sun Yat-Sen University on Public Recruitment of Research Assistant for Leading Talent Prof. Zheng Songguo at Exhibit 5 Tab 29

⁹⁹ See University Personnel Recruitment Website—Notice of the Third Affiliated Hospital of Sun Yat-Sen University on Public Recruitment of Research Assistant for Leading Talent Prof. Zheng Songguo at Exhibit 5 Tab 25

National Thousand Talents Program typically has a term of three years, his term under the program may have expired before 2019.

4. Innovative Entrepreneurial Team in the Zhu Jiang (a.k.a. Pearl River) Talent Program of Guangdong Province (广东省珠江人才计划创新创业团队带头人) (Term Not Identified)

Dr. Zheng's current profile on the official website of Sun Yat-Sen University states that he is a Leader of the Innovative Entrepreneurial Team in the "ZJ Talent Program" of Guangdong Province.¹⁰⁰ One translation for "Zhu Jiang" (珠江) is "Pearl River," and it appears from a Sun Yat-Sen press release that this is the program into which Dr. Zheng was selected.¹⁰¹ We found that the Guangdong Provincial Government administered a talent program for Innovative Entrepreneurial Teams under another name, "Zhu Jiang Talent Program." The press release states that Dr. Zheng is the "leader" of one of six teams, for a total benefit to the school of 120 million yuan (~\$17.1 million).¹⁰² Further, according to the press release, "Guangdong Pearl River Talent Program, is a major initiative of the Guangdong Provincial Party Committee and Provincial Government to accelerate the cultivation of high-level talents and implement innovation-driven development strategies."

¹⁰⁰ See 2014 Enrollment Catalog of Sun Yat-Sen University for Doctoral Students at Exhibit 5 Tab 7; Introduction to the Postdoctoral Supervisors for 2020 on the SYU No.3 Hospital Website at Exhibit 5 Tab 1

¹⁰¹ See Sun Yat-Sen University Pearl River Announcement at Exhibit 5 Tab 60

¹⁰² See Sun Yat-Sen University Pearl River Announcement at Exhibit 5 Tab 60

Commercial Affiliations

Dr. Zheng appears to have had ownership interests in at least one, and possibly more, PRC companies after he joined the Ohio State faculty. Summarized below are these interests and possible interests.

1. Chief Scientist at Guangdong Vitalife Biotechnology Co., Ltd.
(广东唯泰生物科技有限公司首席科学家) (a.k.a., Guangdong Weitai, “Vitalife”)
(2018 – Present)

Vitalife is a biotech company located in Foshan, Guangdong Province. Its business appears to be focused on stem cell storage, dental pulp stem cell storage, cell anti-aging, placental umbilical cord stem cell storage and other services.¹⁰³ According to local news reports, including an interview with Vitalife’s CEO Jinhui Wang conducted by a local news outlet, Vitalife cooperated with multiple local hospitals and research institutions to support the Foshan Integrated Cell Bank (佛山综合细胞库) and Foshan Regional Comprehensive Cell Center (佛山区域细胞制备中心) in or around September 2017.¹⁰⁴ Dr. Zheng reportedly attended a seminar held by Vitalife in October 2017.¹⁰⁵

A 2018 news release from Vitalife, with multiple photographs of Dr. Zheng at a ceremony and in meetings with various parties, reported that Dr. Zheng accepted the appointment of Chief Scientist at Vitalife in a ceremony held at the Company on August 20, 2018.¹⁰⁶ The report highlights Dr. Zheng’s information sharing: “At the academic exchange meeting co-hosted by our company and Nanhai Gaocai, Professor Zheng Songguo shared the current hot topics of immunology research, stem cell treatment of autoimmune diseases and diabetes.” Dr. Zheng also participated in a local Talent Program in the Nanhai District of Foshan City via Vitalife, under which he was required to sign a contract with Vitalife for at least three years.¹⁰⁷

2. Potential Affiliations with Ten Other Chinese Biotechnology Companies

A search of the PRC corporate registry indicated that one individual named “ZHENG Songguo” (*note: in Chinese “郑颂国”* the same name as Dr. Zheng) is the current/former shareholder of ten Chinese biotechnology companies. None of these companies has a website or sufficient presence on the public domain for us to confirm affirmatively that the shareholder is Dr. Zheng. However, all of these companies are in the biotechnology industry and most of these companies are also

¹⁰³ See Vitalife Website - Introduction of the Company at Exhibit 5 Tab 21.

¹⁰⁴ See Foshan Online News Report—Rheumatology Forum Held in Foshan for Discussion on Stem Cell Research at Exhibit 5 Tab 23; *see also* Local News Report on Vitalife building the Foshan Integrated Cell Bank and Foshan Regional Comprehensive Cell Center at Exhibit 5 Tab 22; Zhujiang Times—Interview of Vitalife’s CEO at Exhibit 5 Tab 24.

¹⁰⁵ See Foshan Online News Report—Rheumatology Forum Held in Foshan for Discussion on Stem Cell Research at Exhibit 5 Tab 23.

¹⁰⁶ See Local News Report—Prof. Zheng Songguo’s Appointment Ceremony and Academic Exchange Conference at Exhibit 5 Tab 25.

¹⁰⁷ See Nanhai Today News Website—Interim Measures for the Identification of Talents by Category in Nanhai District, Foshan Ohio State University at Exhibit 5 Tab 28.

located in provinces (e.g., Guangdong, Yunnan) where Dr. Zheng has academic affiliations. **Table 5** and **Table 6** outline identified affiliations ongoing in 2019 and before 2019.

Table 5: Post-2019 Company Affiliations

No.	Chinese Company Name	Dr. Zheng's Position	Incorporation Date	Registered Capital
1.	Yutai Life Science Technology Co., Ltd. (裕泰生命科技有限责任公司) ¹⁰⁸	Current 20% ownership	Sept. 25, 2015	RMB 200 million (~USD 28.6 million)
2.	Huize Life Science Technology Co., Ltd. (慧泽生命科学有限公司) ¹⁰⁹	Legal Representative; Current 30% ownership	May 29, 2018	RMB 50 million (~USD 7.14 million)
3.	Guangdong Huize Life Science Technology Co., Ltd. (广东慧泽生物科技有限公司) ¹¹⁰	Legal Representative; Current 26% ownership	May 5, 2016	RMB 10 million (~USD 1.43 million)
4.	Guangzhou Tairuige Biotechnology Co., Ltd. (广州泰锐戈生物科技有限公司) ¹¹¹	Current 100% ownership	July 13, 2016	RMB 5 million (~USD 714,000)
5.	Zhuhai Zhongjing Tairuige Biotechnology Co., Ltd. (珠海中璟泰锐戈生物科技有限公司) ¹¹²	Ultimate controller; Current 45% ownership via parent company Guangzhou Tairuige Biotechnology Co., Ltd.	May 9, 2019	RMB 50 million (~USD 7.14 million)

¹⁰⁸ Corporate Registry Records—Yutai Life Science Technology Co., Ltd., at Exhibit 5 Tab 35.

¹⁰⁹ Corporate Registry Records—Huize Life Science Technology Co., Ltd., at Exhibit 5 Tab 36.

¹¹⁰ Corporate Registry Records—Guangdong Huize Life Science Technology Co., Ltd., at Exhibit 5 Tab 37.

¹¹¹ Corporate Registry Records—Guangdong Tairuige Biotechnology Co., Ltd., at Exhibit 5 Tab 38.

¹¹² Corporate Registry Records—Zhuhai Zhongjing Tairuige Biotechnology Co., Ltd., at Exhibit 5 Tab 39.

Table 6: Pre-2019 Company Affiliations

No.	Chinese Company Name	Dr. Zheng's Position	Incorporation Date	Registered Capital
1.	Zhejiang Huifu Biotechnology Co., Ltd. (浙江慧福生物科技有限公司) ¹¹³	Former shareholder (interests transferred out on July. 4, 2017)	Feb. 28, 2013 (Deregistered on July 4, 2017)	RMB 10 million (~USD 1.43 million)
2.	Kangruijin Biotechnology (Beijing) Co., Ltd. (康瑞金生物科技(北京)有限公司) ¹¹⁴	Former Legal Representative (Resigned) former shareholder (interests transferred out on Aug. 1, 2017)	Sept. 27, 2016	RMB 50 million (~USD 7.14 million)
3.	Weihai Aoxing Biotechnology Co., Ltd. (威海奥星生物科技有限公司) ¹¹⁵	Legal Representative; 45% ownership	Sept. 11, 2012 (Deregistered on Jun.5, 2015)	RMB 10 million (~USD 1.43 million)
4.	Qijing Haiersi Biotechnology Co., Ltd. (曲靖海尔斯生物科技有限公司) ¹¹⁶	Legal Representative; 75% ownership	Jun. 24, 2015 (Deregistered on Aug.18, 2016)	RMB 6 million (~USD 857,000)
5.	Guangdong Ruige Biotechnology Co., Ltd. (广东瑞格生物科技有限公司) ¹¹⁷	49% ownership	May 5, 2015 (Deregistered on Oct.31, 2017)	RMB 20 million (~USD 2.86 million)

¹¹³ Corporate Registry Records—Zhejiang Huifu Biotechnology Co., Ltd., at Exhibit 5 Tab 40.

¹¹⁴ Corporate Registry Records—Kangruijin Biotechnology (Beijing) Co., Ltd., at Exhibit Tab 41.

¹¹⁵ Corporate Registry Records—Weihai Aoxing Biotechnology Co., Ltd., at Exhibit Tab 42.

¹¹⁶ Corporate Registry Records—Qijing Haiersi Biotechnology Co., Ltd., at Exhibit Tab 43.

¹¹⁷ Corporate Registry Records—Guangdong Ruige Biotechnology Co., Ltd., at Exhibit Tab 44.

From: Zheng, Song Guo
To: [REDACTED]
Subject: Re: Toxo IL-33 revised manuscript and response letter !
Date: Saturday, February 2, 2019 9:18 59 AM
Attachments: [2019.2.2 IL-33 mediates Toxoplasma gondii induced ileitis 2212018revisedBR.doc](#)

Dear E [REDACTED]:
Author order and affiliation need to be changed as I edited (please see attachment)
That way meets the award conditions of SYSU
To protect my safety, my affiliation has only to be listed with US affiliation only now
I greatly appreciate your contribution
I can pay publication fee
Best,
SG

Song Guo Zheng, MD, PhD
Ronlad L. Whisler Chair in Immunology and Rheumatology
Professor of Internal Medicine
Director, Immunology and Rheumatology Research
Phone: 614 293 7452
Fax: 614 366 0980
Email: SongGuo Zheng@osumc.edu

From: E [REDACTED] R [REDACTED]
Sent: Saturday, February 2, 2019 5:40 AM
To: Zheng, Song Guo
Subject: Toxo IL-33 revised manuscript and response letter !

Dear SG,
Please check carefully the revised Toxo IL-33 manuscript and response letter for FI !
I will try to upload it on Sunday !
Best wishes
Bernhard
Please add full new address!

Le 01/02/2019 à 02:01, Zheng, Song Guo a écrit :

> Dear E [REDACTED]:
>
> I have moved to OSU now
>
> Below is my new contact information
>
> Thanks for your support during my appointment
>
> Best,
>
> SG
>
>
> *****
> Song Guo Zheng, MD, PhD
> Ronlad L. Whisler Chair in Immunology and Rheumatology
> Professor of Internal Medicine
> Director, Immunology and Rheumatology Research
> Phone: 614 293 7452
> Fax: 614 366 0980
> Email: SongGuo Zheng@osumc.edu
>
>
>

—
[REDACTED] PhD Directrice
[REDACTED] MD, PhD
INEM - UMR/355, Molecular Immunology, University and CNRS
3b rue de la Ferrollerie
F-45071 Orleans - Cedex 2
[REDACTED]
[REDACTED]

https://urldefense.proofpoint.com/v2/url?u=http-3A_inem.cnrs-2Dorleans.fr&d=DwID-g&c=k9MF1d71ITkuJx-PdWme51dKbmFPevxwt8SFEkBfs4&r=IUXHjg8nPXtH5Fiy_K9xY-

jmr28JnkY2NvXs9OqA49o&m=cJdV2TaieTQxJR6_58gBNUt_WOul5w5RBuRWBXyYJsA&s=Tx0mAlZw6VtVVNIU83HK1QNCE1CKOKhpe6U1MAobF00&e=

BR Feb 2 2018

Blockade of IL-33R/ST2 signaling attenuates *Toxoplasma gondii* ileitis depending on IL-22 expression

Song Guo Zheng^{1,4}, Pauline Robinet², Marbel Torres Arias³, Corine Panek², Isabelle Couillin², Marc Le Bert², Claire Maclowiak², François Erard², Julie, Piotet², Isabelle Dimier-Poisson³ and Ryffel B^{1,2}

¹Department of Clinical Immunology, Sun Yat-sen University Third Affiliated Hospital, Guangzhou, China

²UMR 7355 Université-CNRS INEM, Orléans, France and IDM, University of Cape Town, RSA.

³UMR 1282 Infectiologie Animale et Santé Publique, INRA-Centre de Tours, 37380 Nouzilly, France.

⁴Department of Medicine, Penn State College of Medicine, Hershey, PA 17033, USA

Financial support: Support by Centre National de la Recherche Scientifique, the University of Orléans, la Région Centre (2003-00085470) and European Regional Development Fund (FEDER n°2016-00110366).

Correspondence: Dr. B [REDACTED] R [REDACTED] and Dr. Song Guo Zheng, email: SongGuo.Zheng@osumc.edu

BR Feb 2 2018

Blockade of IL-33R/ST2 signaling attenuates *Toxoplasma gondii* ileitis depending on IL-22 expression

Ryffel B^{1,2}, Pauline Robinet², Marbel Torres Arias³, Corine Panek², Isabelle Couillin², Marc Le Bert², Claire Maclowiak², François Erard², Julie, Piotet², Isabelle Dimier-Poisson³ and Song Guo Zheng⁴,

¹Department of Clinical Immunology, Sun Yat-sen University Third Affiliated Hospital, Guangzhou, China

²UMR 7355 Université-CNRS INEM, Orléans, France and IDM, University of Cape Town, RSA.

³UMR 1282 Infectiologie Animale et Santé Publique, INRA-Centre de Tours, 37380 Nouzilly, France.

⁴Department of Internal Medicine, Ohio State College of Medicine, Columbus, OH 43201, USA

Financial support: Support by Centre National de la Recherche Scientifique, the University of Orléans, la Région Centre (2003-00085470) and European Regional Development Fund (FEDER n°2016-00110366).

Correspondence: Dr. B. [REDACTED] R. [REDACTED], email: [REDACTED] and Dr. Song Guo Zheng, email: SongGuo.Zheng@osumc.edu

From: Zheng, Song Guo
Sent: Wednesday, April 8, 2020 11:59 AM
To: naturecommunications@nature.com
Cc: Zheng, Song Guo
Subject: Song Guo Zheng letter-affiliation error

Dear NC office,
Hope this email finds you well.
I am glad to have opportunities to publish research articles in your journal.
However, below article had an error on my affiliation. During this period, I only work for the Penn State University Medical Center, can you please delete No. 1 in my author affiliation?
Hope you are able to change this online.
I greatly appreciate your assistance.
Thanks a lot.
Song Guo

Song Guo Zheng, MD, PhD
Ronald L. Whisler Chair in Rheumatology and Immunology,
Professor of Internal Medicine
Director of Rheumatology and Immunology Section
Department of Internal Medicine
Ohio State University College of Medicine and Wexner Medical Center
Phone: 614 293 7452
Fax: 614 366 0980
Email: SongGuo.Zheng@osumc.edu

[Nat Commun.](#) 2017 Jun 21;8:15871. doi: 10.1038/ncomms15871.

ITK signalling via the Ras/IRF4 pathway regulates the development and function of Tr1 cells.

[Huang W](#)^{1,2}, [Solouki S](#)², [Koylass N](#)², [Zheng SG](#)^{1,3}, [August A](#)².

Author information

1

Center for Clinical Immunology, The Third Affiliated Hospital of Sun Yat-sen University, Guangzhou, Guangdong 510630, China.

2

Department of Microbiology and Immunology, Cornell University, Ithaca, New York 14853, USA.

3

Department of Medicine, Milton S. Hershey Medical Center, Pennsylvania State University, Hershey, Pennsylvania 17033, USA.

Abstract

Type 1 regulatory T (Tr1) cells differentiate in response to signals engaging the T cell receptor (TCR), express high levels of the immunosuppressive cytokine IL-10, but not Foxp3, and can suppress inflammation and promote immune tolerance. Here we show that ITK, an important modulator of TCR signalling, is required for the TCR-

induced development of Tr1 cells in various organs, and in the mucosal system during parasitic and viral infections. ITK kinase activity is required for mouse and human Tr1 cell differentiation. Tr1 cell development and suppressive function of Itk deficient cells can be restored by the expression of the transcription factor interferon regulatory factor 4 (IRF4). Downstream of ITK, Ras activity is responsible for Tr1 cell induction, as expression of constitutively active HRas rescues IRF4 expression and Tr1 cell differentiation in Itk^{-/-} cells. We conclude that TCR/ITK signalling through the Ras/IRF4 pathway is required for functional development of Tr1 cells.

Yucel, Jennifer

From: Prof. Qing-Ling [REDACTED]@mail.sysu.edu.cn>
Sent: Sunday, April 12, 2020 10:18 AM
To: Zheng, Song Guo
Subject: Fw: Re: for the author information - Ticket ID [#4561454]

CAUTION: External Email

Dear Prof. Zheng,
Please refer to the following email.

Regards,

Q [REDACTED]

-----原始邮件-----

发件人: "Open Research Support" <orsupport@springernature.com>
发送时间: 2020-04-08 21:50:30 (星期三)
收件人: [REDACTED]@mail.sysu.edu.cn
抄送:
主题: Re: for the author information - Ticket ID [#4561454]

Dear Dr. [REDACTED]

Thank you for contacting Springer Nature.

I have forwarded your query to my colleagues in the Production team. They will be looking into your query and will be in touch shortly.

I will be following up this request on your behalf until you hear back from them.

If you have any questions, please do not hesitate to contact us quoting your Ticket ID [#4561454].

With kind regards,

--

Mona Are-Jaranilla
Global Open Research Support Specialist
Author Service

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Visit [Springer Nature Support](#) for answers to our most frequently asked questions.

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Managing Directors: Martin Mos, Dr. Ulrich Vest, Franciscus Vrancken Peeters

On Wed, 8 Apr at 9:13 PM , Qingling Fu <fuqingl@mail.sysu.edu.cn> wrote:
Dear Sir or Madam,

We published a paper in your journal Stem Cell Res Ther. 2018,9:170. , also as the attached file. I am the corresponding author about it.

I am sorry that there was an error for the addresses of one of co-authors, Song Guo Zheng. His address was only Penn State University but not Sun Yat-sen University.

I would like to know whether it can be corrected now.

Your response would be very much appreciated!

Regards,

Q ■ ■ ■ F ■

The First Affiliated Hospital
Sun Yat-sen University



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Yucel, Jennifer

From: Prof. Q [REDACTED] [REDACTED]@mail.sysu.edu.cn>
Sent: Tuesday, April 14, 2020 5:10 AM
To: Zheng, Song Guo
Subject: Fw: Re: for author information

CAUTION: External Email

Dear Prof. Zheng,
Please refer to the following email.

Regards,

Q [REDACTED]

-----原始邮件-----

发件人: "S [REDACTED], M [REDACTED] -" [REDACTED]@wiley.com>
发送时间: 2020-04-13 14:22:38 (星期一)
收件人: [REDACTED]@mail.sysu.edu.cn" [REDACTED]@mail.sysu.edu.cn>
抄送:
主题: Re: for author information

Dear Dr. F [REDACTED],

Could you please provide the article ID of your paper?

Thank you.

Best regards,
M [REDACTED]

From: Allergy <allergy@wiley.com>
Sent: Thursday, 9 April 2020 4:31 PM
To: S [REDACTED] M [REDACTED] - [REDACTED]@wiley.com>
Subject: Fw: for author information

Dear M [REDACTED]

Please find the below e-mail from the author Dr. Fu of the manuscript "ILC2 frequency and activity are inhibited by glucocorticoid treatment via STAT pathway in patients with asthma" which was published on August, 2018.

The author has come up with the query regarding the affiliation details of one of the co-authors.

Please do the needful in this regard.


Many thanks in advance.

Please do let me know if I can be of any assistance.

Regards,

N [REDACTED] B [REDACTED]
Editorial Assistant
Allergy

From: Prof. Q [REDACTED]-L [REDACTED] <[REDACTED]@mail.sysu.edu.cn>
Sent: Wednesday, April 8, 2020 12:33 PM
To: Allergy <allergy@wiley.com>
Subject: for author information

 This is an external email.

Dear Sir or Madam,

We published a paper in Allergy. 2018;73:1860-1870., also as the attached file. I am the corresponding author about it.

I am sorry that there was an error for the addresses of one of co-authors, S.G Zheng. His address was only Penn State University but not Sun Yat-sen University.
I would like to know whether it can be corrected now.

Your response would be very much appreciated!

Regards,

Q [REDACTED] [REDACTED] [REDACTED]

The First Affiliated Hospital
Sun Yat-sen University



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Inventor or Applicant for Chinese Patents

A search of open source information has identified fifteen PRC patents (two valid and thirteen pending in applications) for which individuals named “ZHENG Songguo” (*note:* in Chinese: “郑颀国”) were listed as inventors or applicants (please see details in **Table 7** below). We were not able to confirm that these individuals are Ohio State’s Dr. Song Guo Zheng rather than another individual with the same name. However, a number of these patents are owned by institutions with which Ohio State’s Dr. Zheng has or had affiliations. All of the applications were submitted before 2019.

Table 7: Patent Record Details Ordered by Legal Status

No.	Application Number	Title	Application Date	Publication Number	Applicant/ Patentee	Inventor	Legal Status
1	CN201510567682.9 ¹¹⁸	In-vitro induction regulatory macrophage and preparation method and application (体外诱导调节性巨噬细胞及其制备方法和应用[ZH])	2015.09.07	CN105274054B	ZHONGSHAN OPHTHALMIC CENTER, SUN YAT-SEN UNIVERSITY (中山大学中山眼科中心)	SU Wenru (苏文如); LIANG Dan (梁丹); ZHENG Songguo (郑颀国); DAI Ye (戴华)	Granted (currently valid)
2	CN201710794916.2 ¹¹⁹	Construction method of systemic lupus erythematosus animal model and application thereof (一种系统性红斑狼疮动物模型的构建方法及其应用[ZH])	2017.09.05	CN107693542B	THE THIRD AFFILIATED HOSPITAL, SUN YAT-SEN UNIVERSITY (中山大学附属第三医院)	XIAO Zexiu (肖泽秀); ZHENG Xu (郑旭); ZHENG Songguo (郑颀国); HUANG Feng (黄峰)	Granted (currently valid)

¹¹⁸ See CN105274054A English Summary on Google Patents at Exhibit 5 Tab 55a; CN105274054A Information on CNIPA Website at Exhibit 5 Tab 55b

¹¹⁹ See CN107693542B English Summary on Google Patents at Exhibit 5 Tab 47a; CN107693542B Information on CNIPA Website at Exhibit 5 Tab 47b.

No.	Application Number	Title	Application Date	Publication Number	Applicant/ Patentee	Inventor	Legal Status
3	CN201811389855.2 ¹²⁰	The application of the excretion body in induction type regulatory T cells source (诱导型调节性T细胞来源的外泌体的应用[ZH])	2018.11.21	CN109498652A	THE THIRD AFFILIATED HOSPITAL, SUN YAT-SEN UNIVERSITY (Sun Yat-Sen University Hepatopathy Hospital [中山大学附属第三医院 (中山大学肝病医院)])	ZHENG Songguo (郑颂国); CHEN Jingrong (陈敬荣); WANG Juhua (王菊华)	Pending
4	CN201810780478.9 ¹²¹	TNFR2 gene and its application for encoding albumen (TNFR2基因及其编码蛋白的应用[ZH])	2018.07.16	CN109055523A	THE THIRD AFFILIATED HOSPITAL, SUN YAT-SEN UNIVERSITY (Sun Yat-Sen University Hepatopathy Hospital [中山大学附属第三医院 (中山大学肝病医院)])	ZHENG Songguo (郑颂国); YANG Sujuan (杨素娟); WANG Juhua (王菊华)	Pending
5	CN201810782428.4 ¹²²	Tnfr1 gene and its application of coding protein (TNFR1基因及其编码蛋白的应用[ZH])	2018.07.16	CN108926720A	THE THIRD AFFILIATED HOSPITAL, SUN YAT-SEN UNIVERSITY (Sun Yat-Sen University Hepatopathy Hospital [中山大学附属第三医院 (中山大学肝病医院)])	ZHENG Songguo (郑颂国); YANG Sujuan (杨素娟); WANG Juhua (王菊华)	Pending

¹²⁰ See CN109498652A same information on CNIPA website at Exhibit 5 Tab 48a; CN109498652A Information on CNIPA Website at Exhibit 5 Tab 48b.

¹²¹ See CN109055523A English Summary on Google Patents at Exhibit 5 Tab 49a; CN109055523A Information on CNIPA Website at Tab 49b.

¹²² See CN108926720A English Summary on Google Patents at Exhibit 5 Tab 50a; CN108926720A Information on CNIPA Website at Exhibit 5 Tab 50b.

No.	Application Number	Title	Application Date	Publication Number	Applicant/ Patentee	Inventor	Legal Status
6	CN201810287362.1 ¹²³	Method for inducing regulatory T cells by synthesized double-chain DNA (deoxyribonucleic acid) (一种通过利用合成双链DNA来诱导调节性T细胞的方法 [ZH])	2018.03.30	CN108531479A	THE THIRD AFFILIATED HOSPITAL, SUN YAT-SEN UNIVERSITY (Sun Yat-Sen University Hepatopathy Hospital [中山大学附属第三医院 (中山大学肝病医院)])	ZHENG Songguo (郑颂国); Laurence Olivier (劳利斯·奥利弗)	Pending
7	CN201810092676.6 ¹²⁴	Application of B7-H4 fusion protein in preparation of medicine used for treating systemic lupus erythematosus (B7-H4融合蛋白在制备治疗系统性红斑狼疮药物中的用途 [ZH])	2018.01.29	CN108236719A	THE THIRD AFFILIATED HOSPITAL, SUN YAT-SEN UNIVERSITY (Sun Yat-Sen University Hepatopathy Hospital [中山大学附属第三医院 (中山大学肝病医院)])	XIAO Zexiu (肖泽秀); ZHENG Songguo (郑颂国); HUANG Feng (黄峰)	Pending

¹²³ See CN108531479A English Summary on Google Patents at Exhibit 5 Tab 51a; CN108531479A Information on CNIPA Website at Exhibit 5 Tab 51b.

¹²⁴ See CN108236719A English Summary on Google Patents at Exhibit 5 Tab 52a; CN108236719A Information on CNIPA Website at Exhibit 5 Tab 52b.

No.	Application Number	Title	Application Date	Publication Number	Applicant/ Patentee	Inventor	Legal Status
8	CN201711236983.9 ¹²⁵	Stable type regulatory T cell in inflammatory state and preparation method thereof (一种炎症状态下的稳定型调节性T细胞及其制备方法[ZH])	2017.11.30	CN107937351A	THE THIRD AFFILIATED HOSPITAL, SUN YAT-SEN UNIVERSITY (中山大学附属第三医院)	ZHENG Songguo (郑颂国); WANG Juhua (王菊华); XU Zhenjian (徐振建)	Pending
9	CN201710905472.5 ¹²⁶	Preparation method and application of regulatory T cell (一种调节性T细胞的制备方法及其应用[ZH])	2017.09.28	CN107519202A	THE THIRD AFFILIATED HOSPITAL, SUN YAT-SEN UNIVERSITY [中山大学附属第三医院]	SUN Qiquan (孙启全); ZHENG Songguo (郑颂国); LIAO Tao (廖涛); XUE Youqiu (薛有求); ZHAO Daqiang (赵大强); LI Siwen (李思雯)	Pending

¹²⁵ See CN107937351A English Summary on Google Patents at Exhibit 5 Tab 53a; CN107937351A Information on CNIPA Website at Exhibit 5 Tab 53b.

¹²⁶ See CN107519202A English Summary on Google Patents at Exhibit 5 Tab 54a; CN108236719A Information on CNIPA Website at Exhibit 5 Tab 54b.

No.	Application Number	Title	Application Date	Publication Number	Applicant/ Patentee	Inventor	Legal Status
10	CN201810153657.X ¹²⁷	METHODS AND COMPOSITIONS FOR EXPANDING AND STABILIZING NATURAL REGULATORY T CELLS (用于扩增和稳定天然调节性T细胞的方法和组合物[ZH])	2011.04.21	CN108467852A	UNIV. SOUTHERN CALIFORNIA	ZHENG Songguo (郑颂国); D.A. Horwitz (D.A. 霍尔维奇); J. Wang (J. 王)	Pending
11	CN201110243223.7 ¹²⁸	Regulatory T cells for treating autoimmune diseases, and preparation method thereof (一种治疗自体自身免疫性疾病的调节T细胞及其制备方法 [ZH])	2011.08.23	CN102321580A	ZHENG Songguo (郑颂国)	ZHENG Songguo (郑颂国); LIU Zhongmin (刘中民); ZHOU Hejian (邹和建); WANG Juhua (王菊华)	Invalid
12	CN200710043712.1 ¹²⁹	TGF-beta induced adjustment T cell and its forming method and application (TGF-β诱导的调节T细胞及其形成方法和应用 [ZH])	2007.07.12	CN101126076A	ZHENG Songguo (郑颂国); ZHOU Hejian (邹和建); XU Jianguang (徐建光); WANG Juhua (王菊华); David Heviz (戴维赫威兹)	ZHENG Songguo (郑颂国); ZHOU Hejian (邹和建); XU Jianguang (徐建光); WANG Juhua (王菊华); David Heviz (戴维赫威兹);	Invalid

¹²⁷ See CN108467852A English Summary on Google Patents at Exhibit 5 Tab 56a; CN108467852A Information on CNIPA Website at Exhibit 5 Tab 56b.

¹²⁸ See CN102321580A English Summary on Google Patents at Exhibit 5 Tab 45a; CN102321580A Information on CNIPA Website at Exhibit 5 Tab 45b.

¹²⁹ See CN101126076A English Summary on Google Patents at Exhibit 5 Tab 46a; CN101126076A Information on CNIPA Website at Exhibit 5 Tab 46b.

No.	Application Number	Title	Application Date	Publication Number	Applicant/ Patentee	Inventor	Legal Status
13	CN201180030933.X ¹³⁰	Methods and compositions for expanding and stabilizing natural regulatory T cells [EN] (用于扩增和稳定天然调节性T细胞的方法和组合物 [ZH])	2011.04.21	CN102971416B	UNIV. SOUTHERN CALIFORNIA	ZHENG Songguo (S.G.郑); D.A. Horwitz (D.A.霍尔维奇); J. Wang (J.王)	Terminated
14	CN201520721439.3 ¹³¹	Multilayer adherent cell blake bottle (一种多层贴壁细胞培养瓶 [ZH])	2015.09.18	CN205329071U	Zhejiang Huifu Biological Technology Co., Ltd. (浙江慧富生物科技有限公司)	ZHENG Songguo (郑颂国); ZHU Wangyu (竺王玉); CHEN Dongdong (陈冬冬); QI Xiaoyan (齐小艳)	Terminated
15	CN201520231824.X ¹³²	Novel adherent cell blake bottle (新型贴壁细胞培养瓶 [ZH])	2015.04.17	CN204529878U	ZHOU Shan Hospital (舟山医院)	ZHU Wangyu (竺王玉); CHEN Dongdong (陈冬冬); ZHENG Songguo (郑颂国); LIU Xiaoguang (刘晓光)	Terminated

¹³⁰ See CN102971416B English Summary on Google Patents at Exhibit 5 Tab 57a; CN102971416B Information on CNIPA Website at Exhibit 5 Tab 57b.

¹³¹ See CN205329071U English Summary on Google Patents at Exhibit 5 Tab 58a; CN205329071U Information on CNIPA Website at Exhibit 5 Tab 58b.

¹³² See CN204529878U English Summary on Google Patents at Exhibit 5 Tab 59a; CN204529878U Information on CNIPA Website at Exhibit 5 Tab 59b.

Exhibit 18 - Other Support

Other Support Analysis

1. Summary of Other Support Identified in Publications Reviewed
(See Exhibit 19, Table 2 for list of publications)

Table 1: Other Support Identified

No.	Other Support Identified	Publication Number Reference(s)
1.	National Key R&D Program of China (2017YFA0105801)	Publication #s 6, 13, 14, 16, and 20
2.	Zhujiang Innovative and Entrepreneurial Talent Team Award of Guangdong Province (2016 ZT 06S 252)	Publication #s 6, 16, and 19
3.	Jiangsu Provincial Natural Science Foundation (BK20151152)	Publication # 7
4.	NIH grants (CA200673, CA203834 to W.Z.)	Publication # 3
5.	Startup grants (to W.Z.) from the UF Health Cancer Center and the Department of Pathology, Immunology and Laboratory Medicine	Publication # 3
6.	Natural Science Foundation of Guangdong Province (2014A030308005)	Publication #s 13 and 16
7.	Guangdong Introducing Innovative and Entrepreneurial Teams (2016ZT06S252 to C.X - Chichu Xie)	Publication #s 14 and 17
8.	Department of Science and Technology in Guangzhou City, and the Department of Science and Technology in Guangdong Province)	Publication # 13
9.	National Natural Science Foundation of China (30972951)	Publication #s 13, 14
10.	National Natural Science Foundation of China (81671611)	Publication #s 13, 14, 16, 17, and 19
11.	National Natural Science Foundation of China (81573222)	Publication #15
12.	National Natural Science Foundation of China (81872687)	Publication #15
13.	National Natural Science Foundation of China (81871224)	Publication #s 16, 17, and 19
14.	National Natural Science Foundation of China (81901657)	Publication #s 16 and 20
15.	C57BL/6 Foxp3gfp reporter mice were generously provided by Dr. Talil Chatilla (University of Southern California, Los Angeles)	Publication # 12
16.	Professor Xinyuan Fu for the gift of the STAT1 knockout mice	Publication # 16

2. Detailed List of Other Support Identified in Publications

(i) Publication #6

Indications of Other Support Rather Than Foreign Component: The animal work was done in the US and China and gingival samples were collected in both countries. SGZ oversaw study in both countries, without a named Chinese counterpart. May not rise to Foreign component, but awards from China would be other support.

Funding: National Key R&D Program of China (2017YFA0105801 to F.H).

Zhujiang Innovative and Entrepreneurial Talent Team Award of Guangdong Province (2016 ZT 06S 252 to F.H). National Institutes of Health (R01 AR059103, R61 AR073409 and NIH Star Award to S.G.Z).

(ii) Publication #7

Indications of Other Support Rather Than Foreign Component: Y.L. helped with experiments but didn't rise to level of Foreign Component

Funding: Jiangsu Provincial Natural Science Foundation (BK20151152) (to Y.L.).

(iii) Publication #3

Indications of Other Support Rather Than Foreign Component: There is a foreign component but also includes additional US funding that would be Other Support.

Funding: NIH grants (CA200673, CA203834 to W.Z.) startup grants (to W.Z.) from the UF Health Cancer Center and the Department of Pathology, Immunology and Laboratory Medicine.

(iv) Publication #10

Indications of Other Support Rather Than Foreign Component: All cited funding US. One author has a Japan affiliation, but there is no funding listed and their role is not specified.

* Publication listed in RPPR as "related to AR059103 but not a product."

Funding: Simon J. Fisher was supported by grants [NS070235 and JDRF 2-SRA-2014-270-M-R]. Robert S. Fujinami was supported by grants [R01NS065714, R01NS082102, and R01NS091939]. Song Guo Zhen was supported by grants [R01AR059103, R61AR073409, and the NIH Star Award]. Peng Zhao was supported by the Graduate Research Fellowship from the University of Utah. This work was primarily supported by the University of Utah Start-up Fund, a Huntsman Cancer Institute Pilot Grant [Grant number 170301], and partially by a NIH grant [R21EB024083] to Mingnan Chen. This funding was not included above in Other Support but may need to be reported.

(v) Publication #12

Indications of Other Support Rather Than Foreign Component: Resource donation.

Funding: C57BL/6 Foxp3gfp reporter mice were generously provided by Dr. Talil Chatilla (University of Southern California, Los Angeles).

(vi) Publication #13

Indications of Other Support Rather Than Foreign Component: First 2 authors have both SYSU and Penn State affiliations. Work done at both Penn State and in China. May not rise to Foreign component, but award from China is other support.

Funding: All affiliated with Department of Clinical Immunology, Third Affiliated Hospital at the Sun Yat-sen University, Guangzhou, China. National Key R&D Program of China (2017YFA0105801 to Y.L. - Y. Luo) Zhujiang Innovative and Entrepreneurial Talent Team Award of Guangdong Province (2016 ZT 06S 252 to Y.L. – Y. Luo). National Natural Science Foundation of China (30972951 and 81671611 to Y.X. – Y. Xue). Natural Science Foundation of Guangdong Province (2014A030308005 to Q.F. – Q. Fang). Department of Science and Technology in Guangzhou City, and the Department of Science and Technology in Guangdong Province (to Q.F - Q. Fang)."

(vii) Publication #14

Indications of Other Support Rather Than Foreign Component: Lead authors have both Penn State and SYSU affiliations and animal work done in both places. May not rise to Foreign component, but award from China is other support.

Funding: Chichu Xie affiliated with Department of Clinical Immunology, Third Affiliated Hospital at the Sun Yat-sen University, Guangzhou, China and Zhengqi Lu with Division of Neurology, Third Hospital at Sun Yat-sen University, 510630 Guangzhou, China. National Key R&D Program of China (2017YFA0105800 to Z.L – Zhengqi Lu) National Natural Science Foundation of China (81671611 to Z.L - Zhengqi Lu) Guangdong Introducing Innovative and Entrepreneurial Teams (2016ZT06S252 to C.X - Chichu Xie)

(viii) Publication #15

Indications of Other Support Rather Than Foreign Component: This is a review article so no foreign component. Also, no author roles listed, but listed in RPPR as related to AR059103.

Funding: Hai-Feng Pan, Department of Epidemiology and Biostatistics, School of Public Health, Anhui Medical University, Anhui Province Key Laboratory of Major Autoimmune Diseases, Hefei, Anhui, 230032, China. National Natural Science Foundation of China (81872687, 81573222 to H.P).

(ix) Publication #16

Indications of Other Support Rather Than Foreign Component: One lead author has OSU, Penn State and SYSU affiliations and animal work done in both SYSU and OSU. May not rise to Foreign component, but award from China is other support.

Funding: Ze Xiu Xiao, Department of Clinical Immunology, The Third Affiliated Hospital at Sun Yat-sen University, 510630 Guangzhou, China. National Key R&D Program of China [2017YFA0105801] Zhujiang Innovative and Entrepreneurial Talent Team Award of Guangdong Province [2016ZT06S252], National Natural Science Foundation of China [Nos. 81871224, 81671611, and 81901657], Natural Science Foundation of Guangdong Province [grant no. 2014A030308005] (all to Z.X.X.). We acknowledge Professor Xinyuan Fu for the gift of the STAT1 knockout mice.

(x) Publication #17

Indications of Other Support Rather Than Foreign Component: This is a review article so no foreign component.

Funding: Yan Liu, Institute of Clinical Immunology, The Third Affiliated Hospital of Sun Yat-sen University, Guangzhou 510620, China. Y.L was in part supported by the grants from the National Nature Science Foundation of China, (81671611; 81871224); Guangdong Introducing Innovative and Entrepreneurial Teams, China, (2016ZT06S252).

(xi) Publication #19

Indications of Other Support Rather Than Foreign Component: This is a review article so no foreign component.

Funding: To Ximei Zhang. X.Z was in part supported by grants from NSFC (81671611 and 81871224), Program for Guangdong Introducing Innovative and Entrepreneurial Teams (2016ZT06S252) NIH R01 AR059103.

(xii) Publication #20

Indications of Other Support Rather Than Foreign Component: One lead author has OSU and SYSU affiliations and animal and human subjects work done at both SYSU and OSU. May not rise to Foreign component, but funding from China is other support.

Funding: W.W., F.H., and L.R. were, in part, supported by a grant from the National Key R&D Program of China (2017YFA0105801). Z.X. was, in part, supported by a grant from the Chinese Natural Science Foundation (81901657).

(xiii) Publication #22

Indications of Other Support Rather Than Foreign Component: SGZ seems to have a limited role in this study. SGZ helped in data analysis, and the paper does not cite any funding for him. However, he is listed as a corresponding author. All animal and human subjects work was done at SYSU. Other support is included here for completeness but not listed above in summary.

Funding: National Natural Science Foundation, China (grant nos. 81770984 and 81970863), the key grant from the Science and Technology Foundation of Guangdong Province of China (grant nos. 2015B020225001), Guangdong grant “key technologies for treatment of brain disorders” (grant no. 2018B030332001), and the Natural Science Foundation of Guangdong Province (grant no. 2016A030308017).

(xiv) Publication #23

Indications of Other Support Rather Than Foreign Component: This paper does not cite any funding for SGZ but ‘Song Guo Zheng and Gehua Zhang conceived the study design, reviewed the manuscript and provided comments. All human tissue came from the Department of Otolaryngology Head and Neck Surgery, The Third Affiliated Hospital of the Sun Yat-sen University, Guangzhou, China. Other support is included here for completeness but not included above in summary.

Funding: National Natural Science Foundation of China [grant numbers 81500769, 81371073, 81670913, 81671611]; the Medical Scientific Research Foundation of Guangdong Province [[grant number A2015312]; and the Program from Guangdong Introducing Innovative and Entrepreneurial Teams [[grant number 2016ZT06S252].